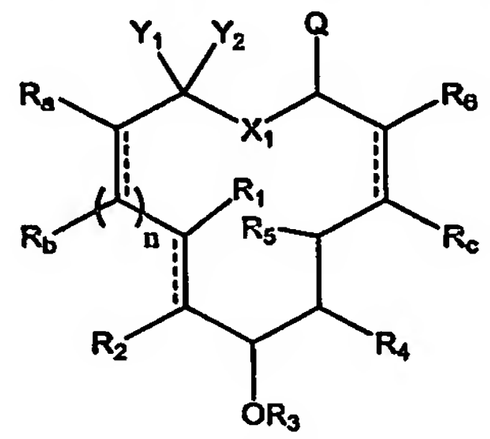
CLAIMS

We claim:

1. A pharmaceutical composition comprising:

a pharmaceutically acceptable carrier, adjuvant or vehicle; and

a therapeutically effective amount of a compound having the structure:



(I)

or pharmaceutically acceptable salt thereof;

wherein R_1 and R_2 are each independently hydrogen, halogen, -CN, $-S(O)_1-_2R^{1A}$, $-NO_2$, $-COR^{1A}$, $-CO_2R^{1A}$, $-NR^{1A}C(=O)R^{1B}$, $-NR^{1A}C(=O)OR^{1B}$, $-CONR^{1A}R^{1B}$, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{1A}$; wherein W is independently -O-, -S- or $-NR^{1C}-$, wherein each occurrence of R^{1A}, R^{1B} and R^{1C} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or R_1 and R_2, taken together with the carbon atoms to which they are attached, form an alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

R_3 is hydrogen, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or a prodrug moiety or an oxygen protecting group;

R_4 is halogen, $-OR^{4A}$, $-OC(=O)R^{4A}$ or $-NR^{4A}R^{4B}$; wherein R^{4A} and R^{4B} are independently hydrogen, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; a prodrug moiety, a nitrogen protecting group or an oxygen protecting group; or R^{4A} and R^{4B}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety;

R_5 is hydrogen, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

R_6 is hydrogen, halogen, -CN, $-S(O)_{1-2}R^{6A}$, $-NO_2$, $-COR^{6A}$, $-CO_2R^{6A}$, $-NR^{6A}C(=O)R^{6B}$, $-NR^{6A}C(=O)OR^{6B}$, $-CONR^{6A}R^{6B}$, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{6A}$; wherein W is independently -O-, -S- or $-NR^{6C}$-, wherein each occurrence of R^{6A}, R^{6B} and R^{6C} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or R_6 and R_c, taken together with the carbon atoms to which they are attached, form an alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

R_a and each occurrence of R_b are independently hydrogen, halogen, -CN, $-S(O)_{1-2}R^{a1}$, $-NO_2$, $-COR^{a1}$, $-CO_2R^{a1}$, $-NR^{a1}C(=O)R^{a2}$, $-NR^{a1}C(=O)OR^{a2}$, $-CONR^{a1}R^{a2}$, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{a1}$; wherein W is independently -O-, -S- or $-NR^{a3}$-, wherein each occurrence of R^{a1}, R^{a2} and R^{a3} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or R_a and the adjacent occurrence of R_b, taken together with the carbon atoms to which they are attached, form an alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

R_c is hydrogen, halogen, -CN, $-S(O)_{1-2}R^{c1}$, $-NO_2$, $-COR^{c1}$, $-CO_2R^{c1}$, $-NR^{c1}C(=O)R^{c2}$, $-NR^{c1}C(=O)OR^{c2}$, $-CONR^{c1}R^{c2}$; an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{c1}$; wherein W is independently -O-, -S- or $-NR^{c3}$-, wherein each occurrence of R^{c1}, R^{c2} and R^{c3} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or R_c and R_6, taken together with the carbon atoms to which they are attached, form an alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

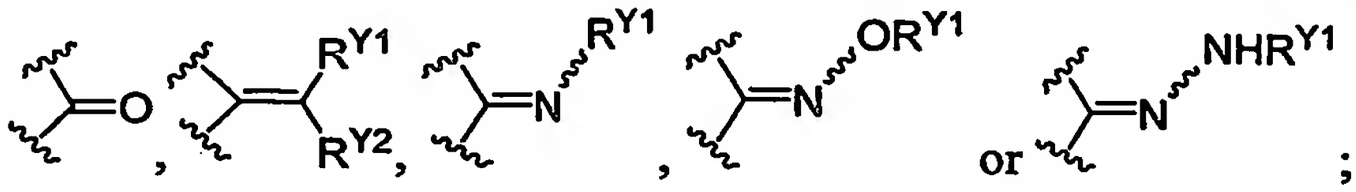
n is an integer from 1 to 5;

X_1 is O, S, NR^{X1} or $CR^{X1}R^{X2}$; wherein R^{X1} and R^{X2} are independently hydrogen, halogen, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or a nitrogen protecting group;

Q is hydrogen, halogen, -CN, $-S(O)_{1-2}R^{Q1}$, $-NO_2$, $-COR^{Q1}$, $-CO_2R^{Q1}$, $-NR^{Q1}C(=O)R^{Q2}$, $-NR^{Q1}C(=O)OR^{Q2}$, $-CONR^{Q1}R^{Q2}$, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{Q1}$; wherein W is independently -O-, -S- or $-NR^{Q3}$-, wherein each occurrence of R^{Q1}, R^{Q2} and R^{Q3} is

independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; and

Y_1 and Y_2 are independently hydrogen, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or $-WR^{Y1}$; wherein W is independently -O-, -S- or $-NR^{Y2}$-, wherein each occurrence of R^{Y1} and R^{Y2} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or Y_1 and Y_2 together with the carbon atom to which they are attached form a moiety having the structure:



whereby the composition is formulated for administration to a subject at a dosage between about 0.1 mg/kg to about 50 mg/kg of body weight.

2. The composition of claim 1, wherein the dosage is between about 1 mg/kg to about 50 mg/kg of body weight.

3. The composition of claim 1, wherein the dosage is between about 0.1 mg/kg to about 40 mg/kg of body weight.

4. The composition of claim 1, wherein the dosage is between about 1 mg/kg to about 40 mg/kg of body weight.

5. The composition of claim 1, wherein the dosage is between about 0.1 mg/kg to about 30 mg/kg of body weight.

6. The composition of claim 1, wherein the dosage is between about 5 mg/kg to about 30 mg/kg of body weight.

7. The composition of claim 1, wherein the dosage is between about 1 mg/kg to about 30 mg/kg of body weight.

8. The composition of claim 1, wherein the dosage is between about 0.1 mg/kg to about 20 mg/kg of body weight.

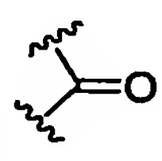
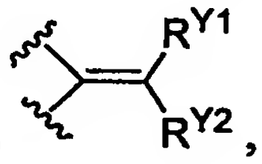
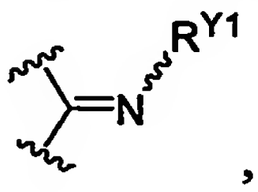
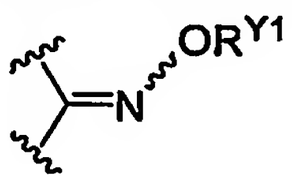
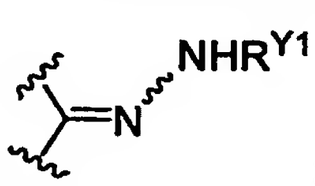
9. The composition of claim 1, wherein the dosage is between about 1 mg/kg to about 20 mg/kg of body weight.

10. The composition of claim 1, wherein the dosage is 10 mg/kg or greater of body weight.

11. The composition of claim 1, wherein:

R_1 and R_2 are each independently hydrogen or substituted or unsubstituted lower alkyl; or R_1 and R_2, taken together with the carbon atoms to which they are attached, form an epoxide, an aziridine or a substituted or unsubstituted cyclopropyl moiety;

R_3 is hydrogen, or substituted or unsubstituted lower alkyl or aryl; a prodrug moiety or an oxygen protecting group;

R_4 is halogen, $-OR^{4A}$, $-OC(=O)R^{4A}$ or $-NR^{4A}R^{4B}$; wherein R^{4A} and R^{4B} are independently hydrogen, or substituted or unsubstituted lower alkyl; a prodrug moiety, a nitrogen protecting group or an oxygen protecting group; or R^{4A} and R^{4B}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or R_4, taken together with the carbon atom to which it is attached forms a moiety having the structure:  ,  ,  ,  or  ;

R_5 and R_6 are each independently hydrogen or substituted or unsubstituted lower alkyl; or R_6 and R_c, taken together with the carbon atoms to which they are attached, form an epoxide, an aziridine or a substituted or unsubstituted cyclopropyl moiety;

R_a and each occurrence of R_b are independently hydrogen, halogen, alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety, or $-WR^{a1}$; wherein W is independently -O-, -S- or $-NR^{a3}-$, wherein each occurrence of R^{a1}, and R^{a3} is independently hydrogen, or an alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety; or R_a and the adjacent occurrence of R_b, taken together, form an epoxide, an aziridine or a substituted or unsubstituted cyclopropyl moiety;

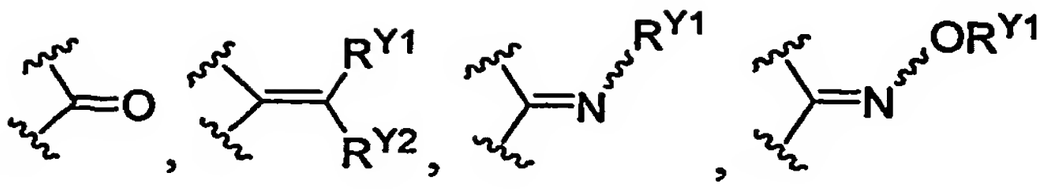
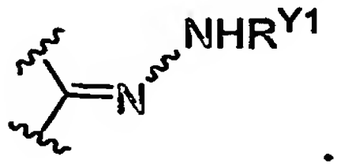
R_c is hydrogen, halogen, alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety, or $-WR^{c1}$; wherein W is independently -O-, -S- or $-NR^{c3}-$, wherein each occurrence of R^{c1} and R^{c3} is independently hydrogen, or an alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety; or R_c and R_6, taken together with the carbon atoms to which they are attached, form an epoxide, an aziridine or a substituted or unsubstituted cyclopropyl moiety;

n is an integer from 1 to 5;

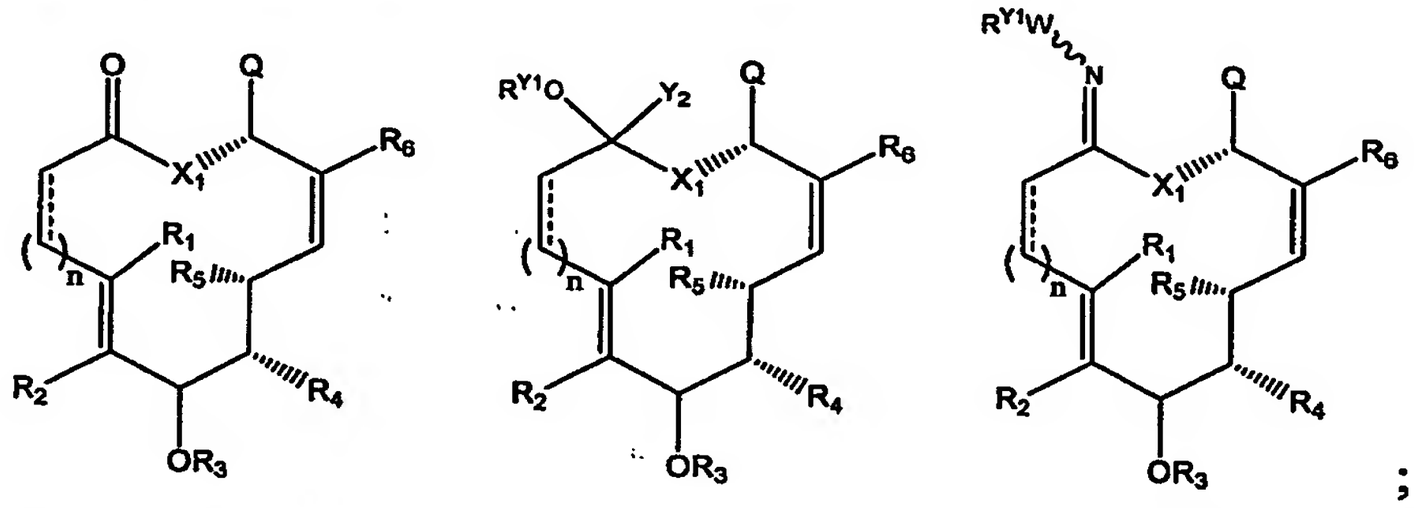
X_1 is O, S, NR^{X1} or $CR^{X1}R^{X2}$; wherein R^{X1} and R^{X2} are independently hydrogen, halogen, substituted or unsubstituted alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl, or a nitrogen protecting group;

Q is hydrogen, halogen, -CN, $-S(O)_{1-2}R^{Q1}$, $-NO_2$, $-COR^{Q1}$, $-CO_2R^{Q1}$, $-NR^{Q1}C(=O)R^{Q2}$, $-NR^{Q1}C(=O)OR^{Q2}$, $-CONR^{Q1}R^{Q2}$, an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety, or $-WR^{Q1}$; wherein W is independently -O-, -S- or $-NR^{Q3}-$, wherein each occurrence of R^{Q1}, R^{Q2} and R^{Q3} is independently hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety;

Y_1 and Y_2 are independently hydrogen, an alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety; or $-WR^{Y1}$; wherein W is independently -O-, -S- or $-NR^{Y2}-$, wherein each occurrence of R^{Y1} and R^{Y2} is independently hydrogen, or an alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety; or Y_1 and Y_2 together with the carbon atom to which they are attached form

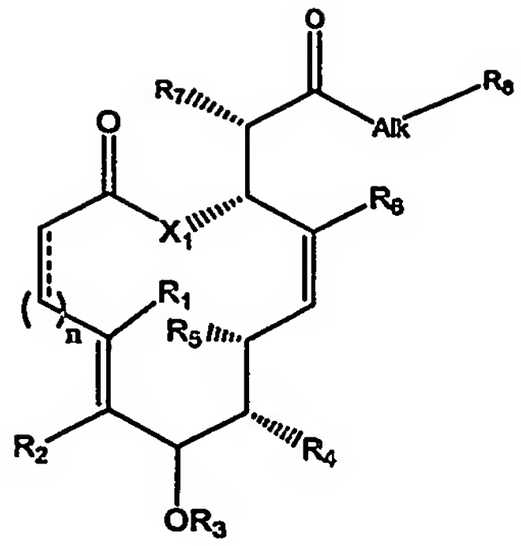
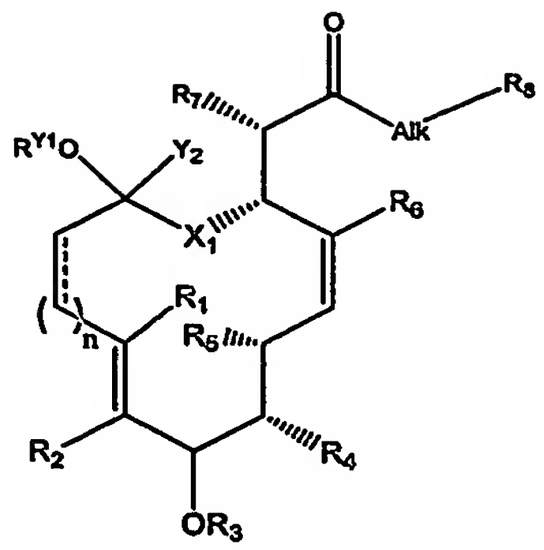
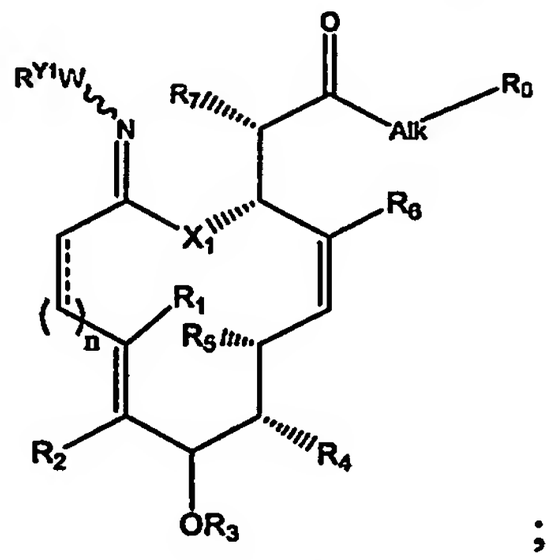
a moiety having the structure:  ,  or

12. The composition of claim 1, wherein R_a, R_b and R_c are each hydrogen, and the compound has one of the following structures:

 ;

wherein R_1-R_6, Y_2, X_1, n and Q are as defined in claim 1; W is O or NH; and R^{Y1} is hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety.

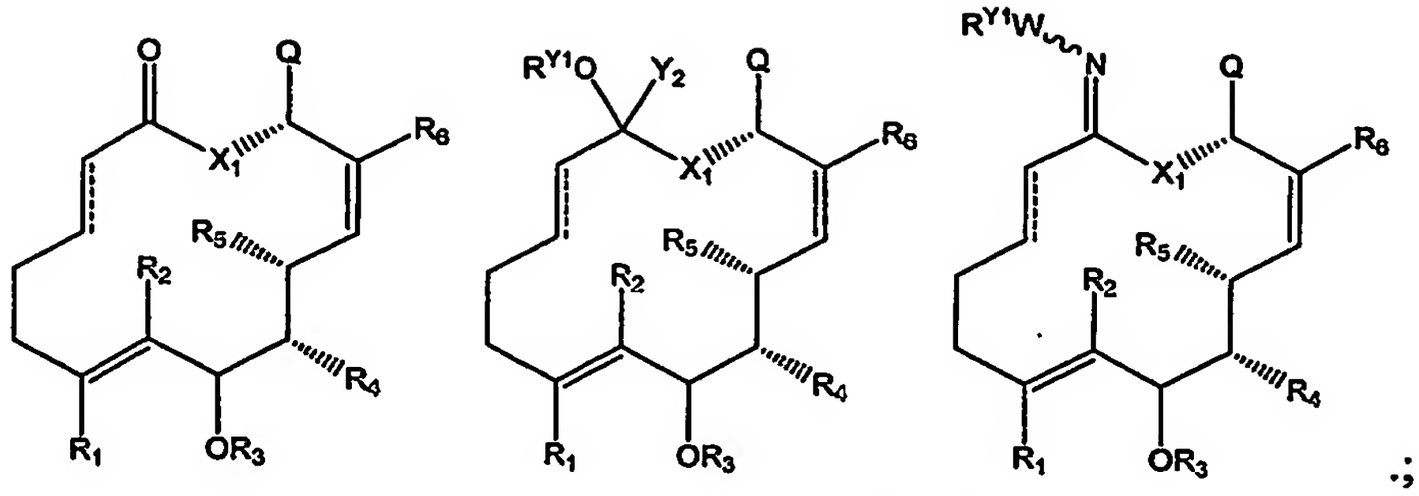
13. The composition of claim 1, wherein R_a, R_b and R_c are each hydrogen, Q is a carbonyl-containing moiety and the compound has one of the following structures:

;

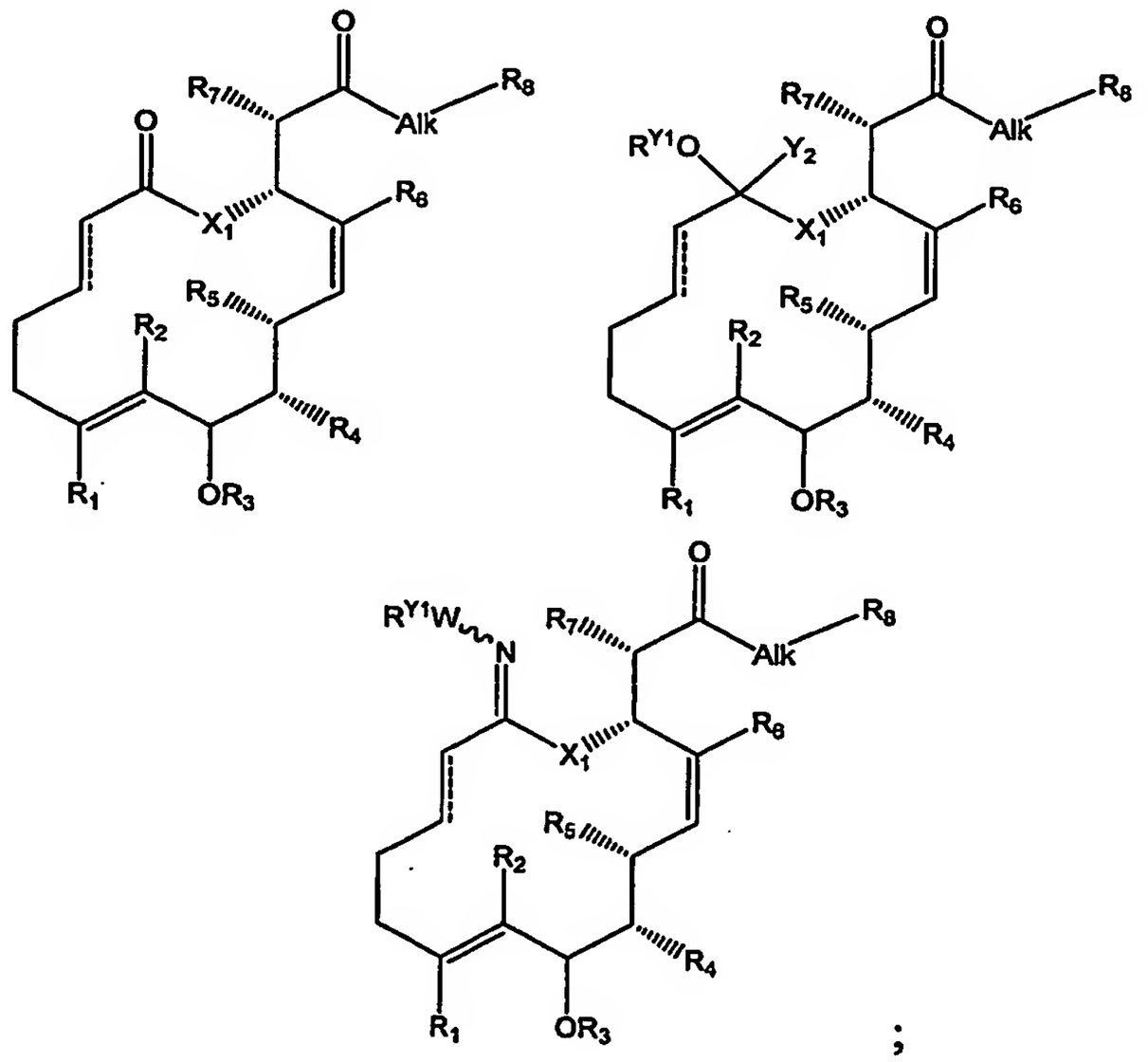
wherein R_1-R_6, Y_2, X_1, and n are as defined in claim 1; W is O or NH; and R^{Y1} is hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; R_7 is a substituted or unsubstituted lower alkyl or heteroalkyl moiety; R_8 is a substituted or unsubstituted alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety; and Alk is a substituted or unsubstituted C_{0-6}alkylidene or C_{0-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl.

14. The composition of claim 1, wherein R_a, R_b and R_c are each hydrogen, n is 3 and the compound has one of the following structures:



wherein R_1-R_6, Y_2, Q and X_1 are as defined in claim 1; W is O or NH; and R^{Y1} is hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety.

15. The composition of claim 1, wherein R_a, R_b and R_c are each hydrogen, n is 3, Q is a carbonyl-containing moiety, and the compound has one of the following structures:



wherein R_1-R_6, X_1 and Y_2 are as defined in claim 1; W is O or NH; R^{Y1} is hydrogen, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; R_7 is a substituted or unsubstituted lower alkyl or heteroalkyl moiety; R_8 is a substituted or unsubstituted alkyl, heteroalkyl, cycloalkyl,

heterocycloalkyl, aryl or heteroaryl moiety; and Alk is a substituted or unsubstituted C_{0-6}alkylidene or C_{0-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; and R_8 is a substituted or unsubstituted alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl or heteroaryl moiety.

16. The composition of any one of claims 1 and 11-15, wherein R_1 and R_2 are each hydrogen.

17. The composition of any one of claims 1 and 11-15, wherein R_5 and R_6 are each methyl.

18. The composition of any one of claims 1 and 11-15, wherein R_3 is lower alkyl.

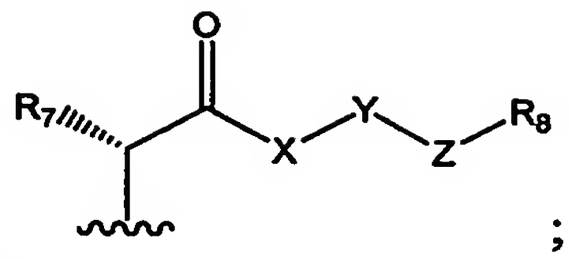
19. The composition of claim 18, wherein R_3 is methyl.

20. The composition of any one of claims 1 and 11-15, wherein R_4 is OH, NH_2 or halogen.

21. The composition of claim 13 or 15, wherein R_7 is lower alkyl.

22. The composition of claim 21, wherein R_7 is methyl.

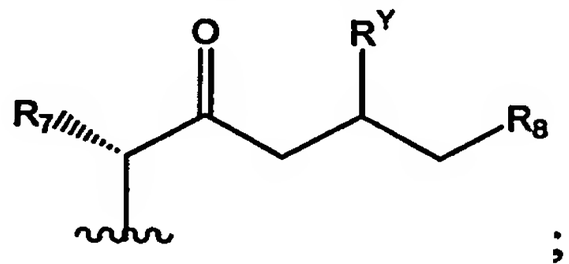
23. The composition of any one of claims 1, 11-12 and 14, wherein Q has the structure:



;

wherein R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R_8 is a substituted or unsubstituted carbocyclic, heterocyclic, aryl or heteroaryl moiety; and X, Y and Z are independently a bond, -O-, -S-, -C(=O)-, -NR^{Z1}-, –$CHOR^{Z1}$, -$CHNR^{Z1}R^{Z2}$, C=S, C=N(R^{Y1}) or –CH(Hal); or a substituted or unsubstituted C_{0-6}alkylidene or C_{0-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein Hal is a halogen selected from F, Cl, Br and I; and each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; or R^{Z1} and R^{Z2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety; and pharmaceutically acceptable derivatives thereof.

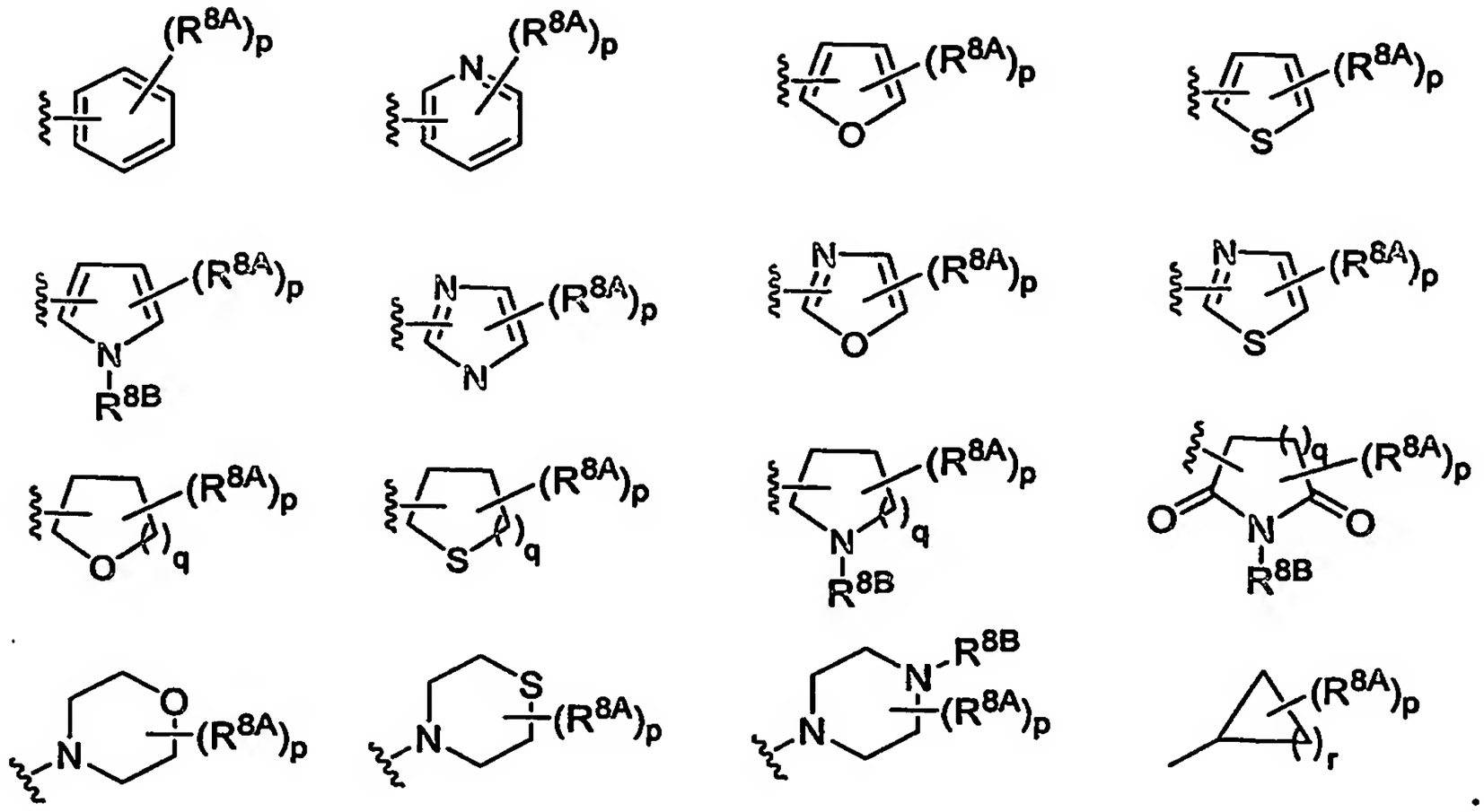
24. The composition of claim 23, wherein Q has the structure:



;

wherein R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R_8 is a substituted or unsubstituted carbocyclic, heterocyclic, aryl or heteroaryl moiety; and R^Y is hydrogen, halogen, -OR^{Y1} or –$NR^{Y1}NR^{Y2}$; wherein R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

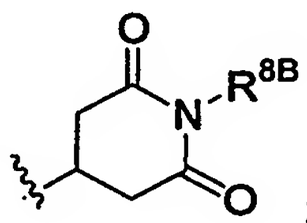
25. The composition of any one of claims 13, 15, 23 and 24, wherein R_8 is one of:



;

wherein p is an integer from 0 to 5; q is 1 or 2, r is an integer from 1 to 6; each occurrence of R^{8A} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, -(alkyl)aryl or -(alkyl)heteroaryl, $-OR^{8C}$, $-SR^{8C}$, $-N(R^{8C})_2$, $-SO_2N(R^{8C})_2$, $-(C=O)N(R^{8C})_2$, halogen, -CN, $-NO_2$, $-(C=O)OR^{8C}$, $-N(R^{8C})(C=O)R^{8D}$, wherein each occcurrence of R^{8C} and R^{8D} is independently hydrogen, lower alkyl, lower heteroalkyl, aryl, heteroaryl, -(alkyl)aryl or -(alkyl)heteroaryl; and each occurrence of R^{8B} is independently hydrogen or lower alkyl.

26. The composition of claim 25, wherein R_8 has the structure:



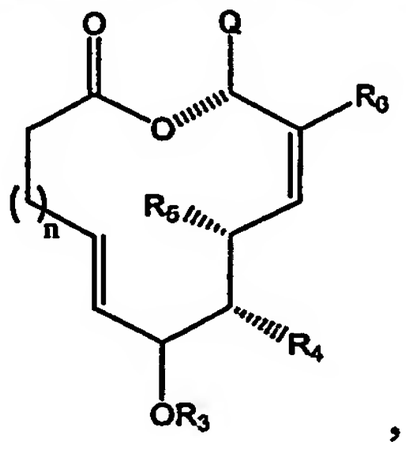
wherein R^{8B} is hydrogen or lower alkyl.

27. The composition of claim 1, 11, 12 or 13, wherein n is 3.

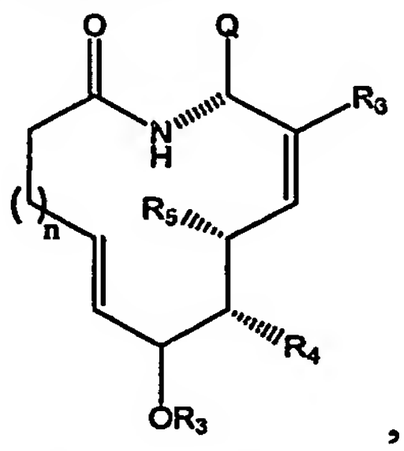
28. The composition of claim 12, 13, 14 or 15, wherein Y_1 is OR^{Y1} and Y_2 is lower alkyl; wherein R^{Y1} is hydrogen or lower alkyl.

29. The composition of claim 28, wherein Y_1 is OH and Y_2 is CF_3.

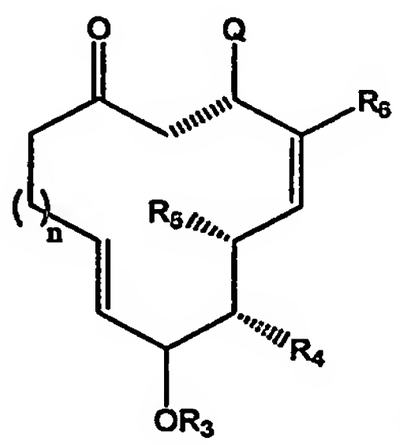
30. The composition of claim 11 wherein R_a, R_b and R_c are each hydrogen, and the compound has one of the structures:



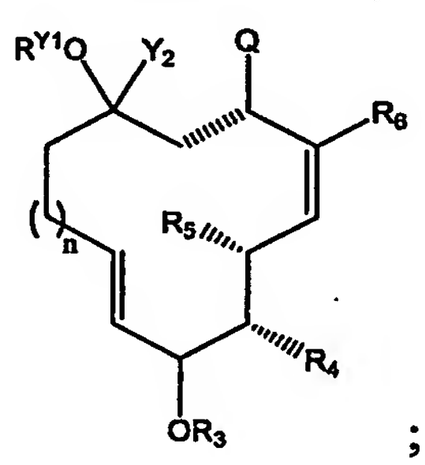
,



,



or

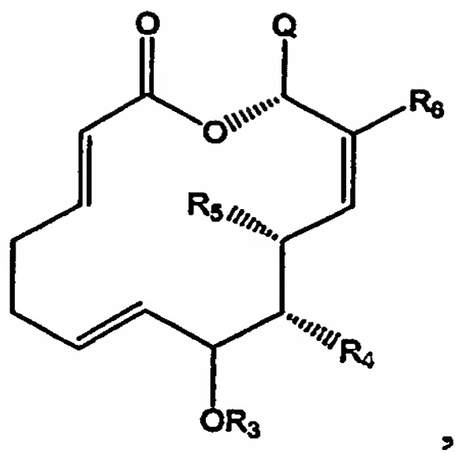
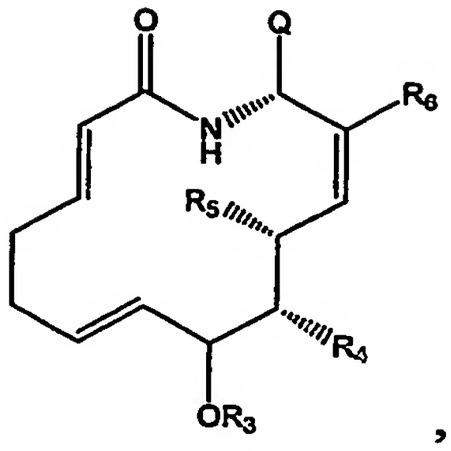
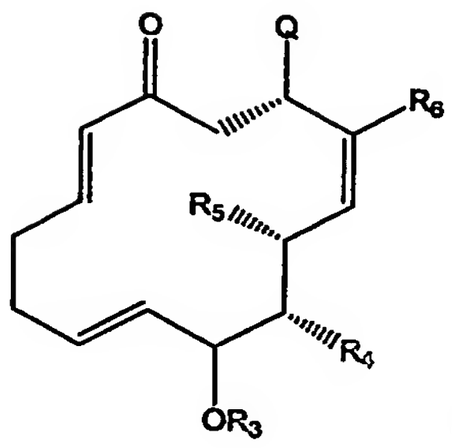
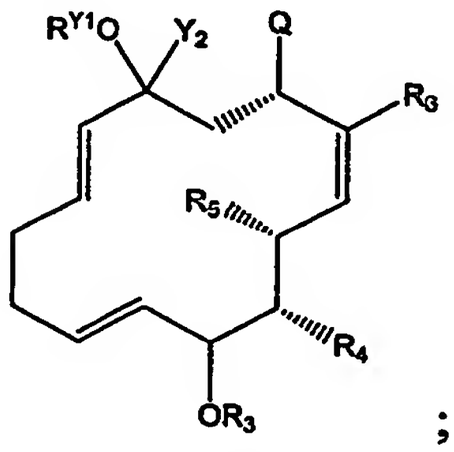


;

or pharmaceutically acceptable derivative thereof;

wherein R_3-R_6, n and Q are as defined in claim 1; and Y_2 and R^{Y1} are independently hydrogen or lower alkyl.

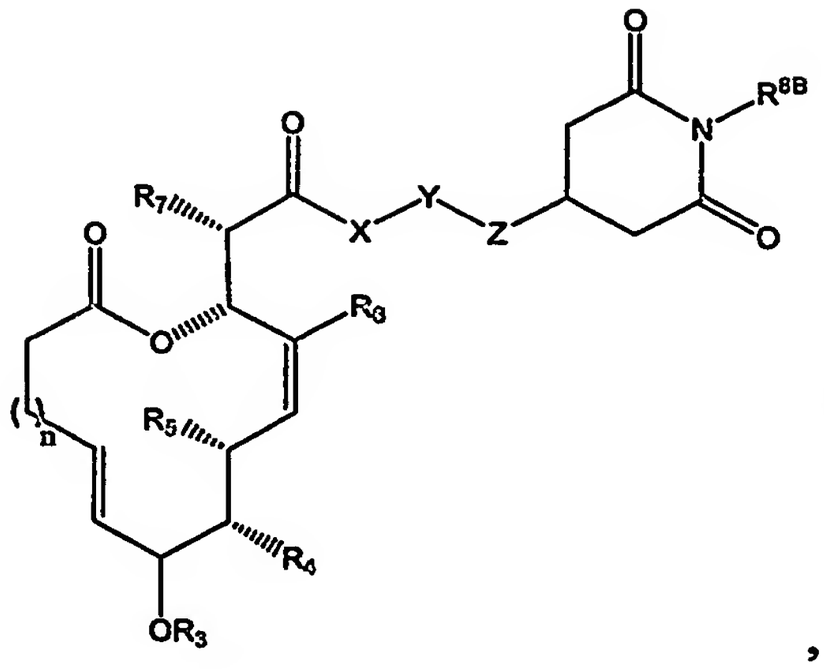
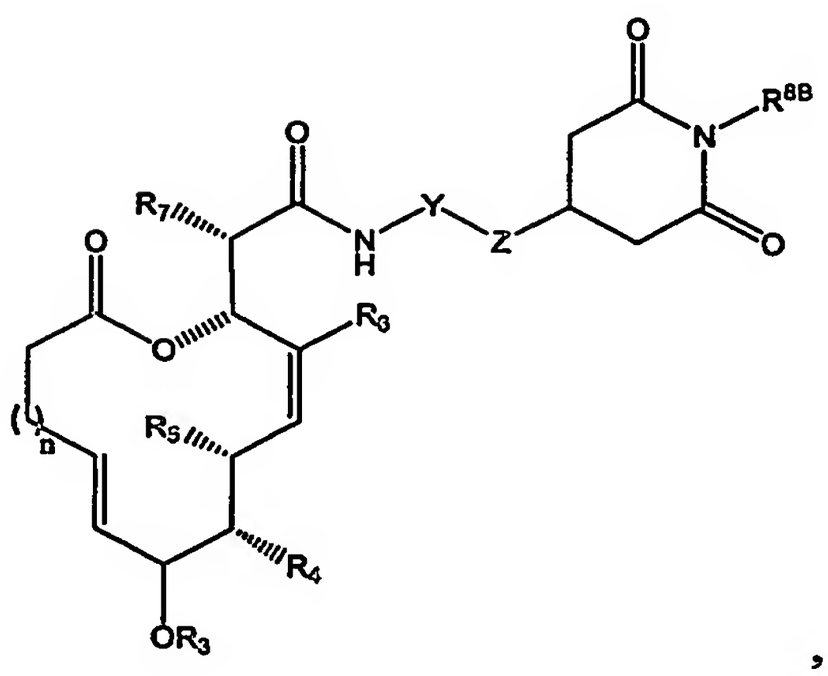
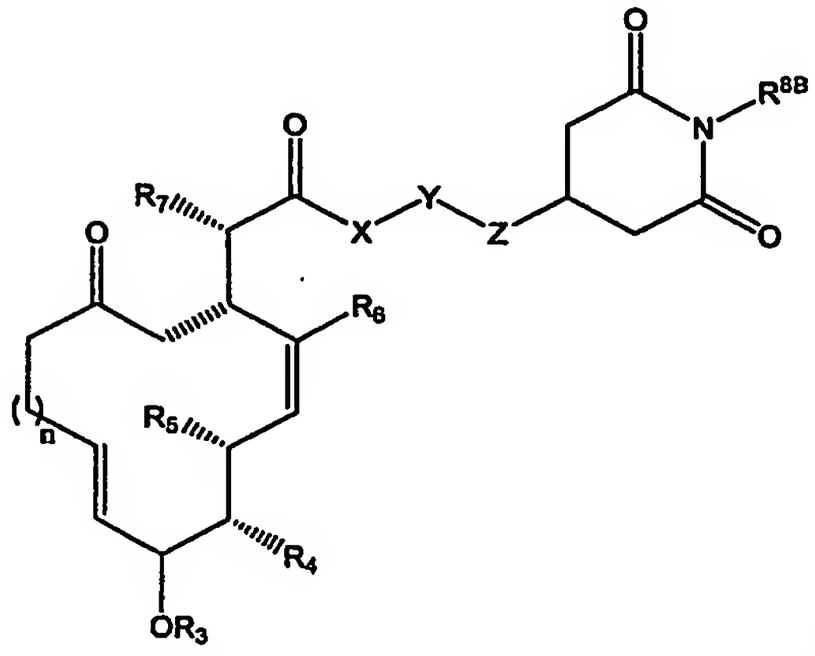
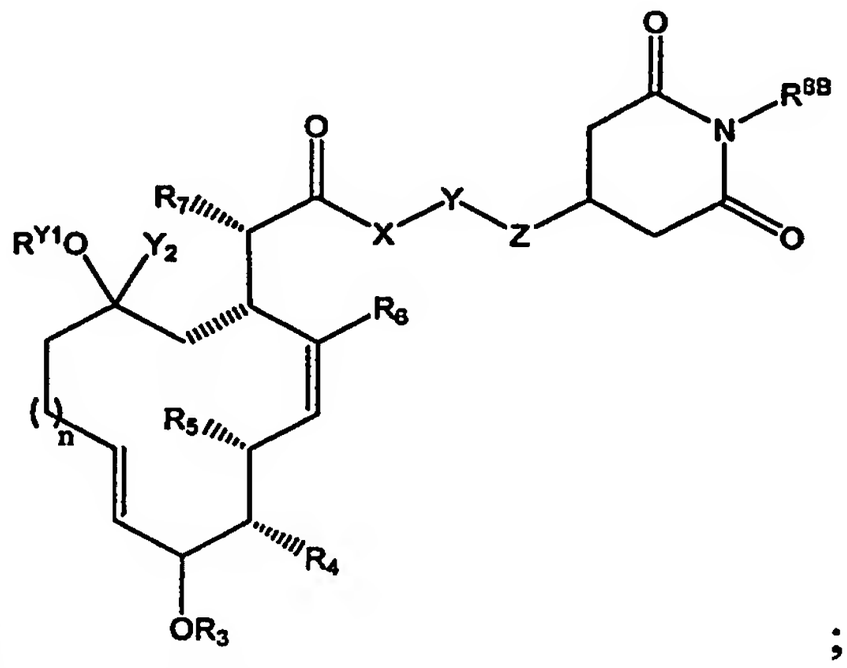
31. The composition of claim 1 wherein the compound has the structure:




or

;

or pharmaceutically acceptable derivative thereof;

wherein R_3-R_6 and Q are as defined in claim 11; and Y_2 and R^{Y1} are independently hydrogen or lower alkyl.

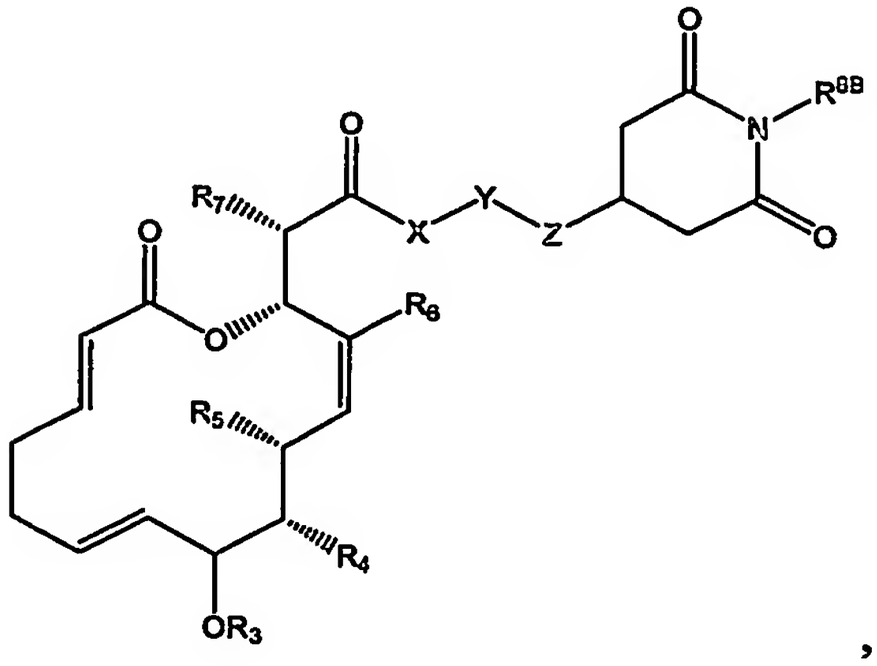
32. The composition of claim 11 wherein the compound has the structure:

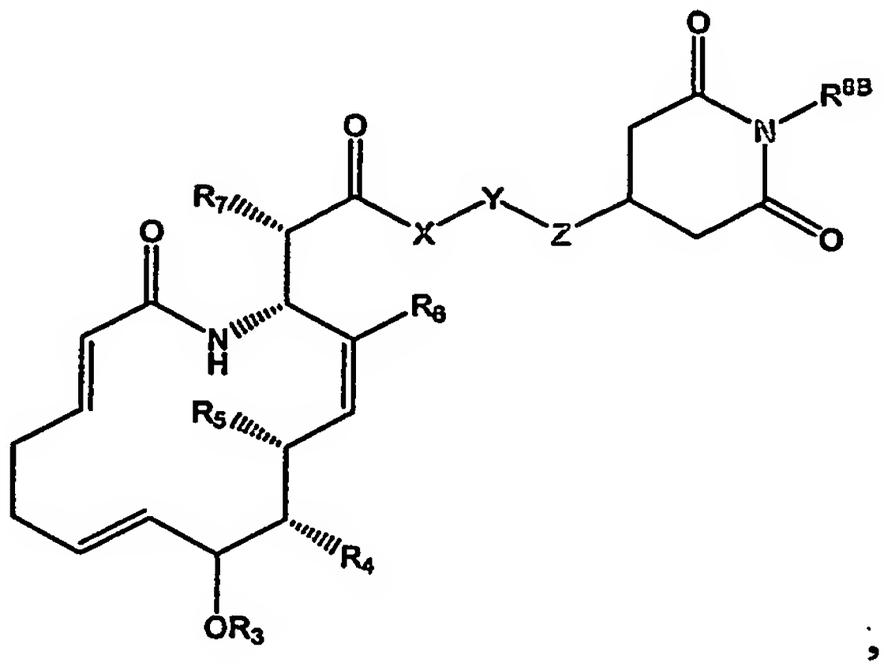

,

,

or

;

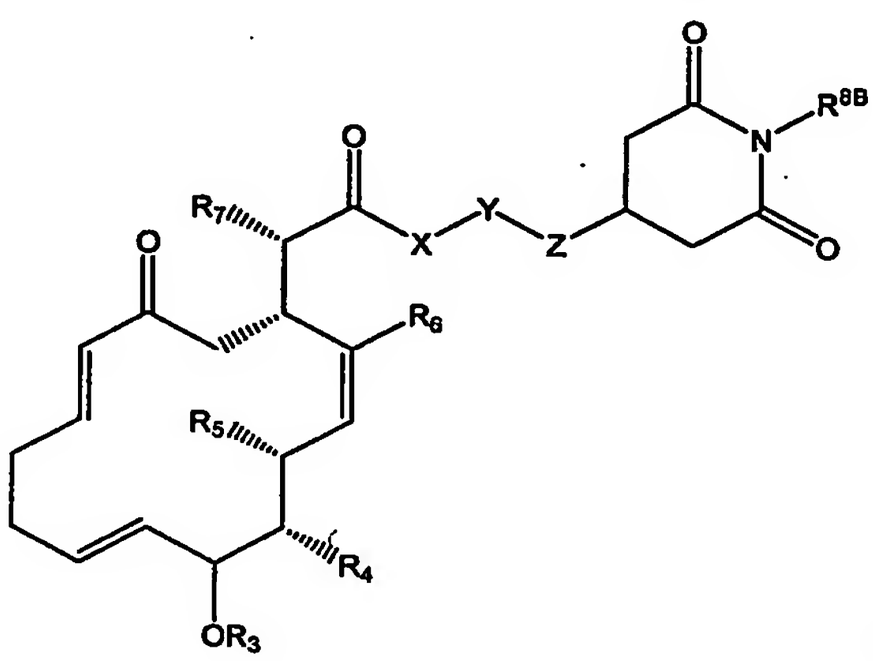
or pharmaceutically acceptable derivative thereof;

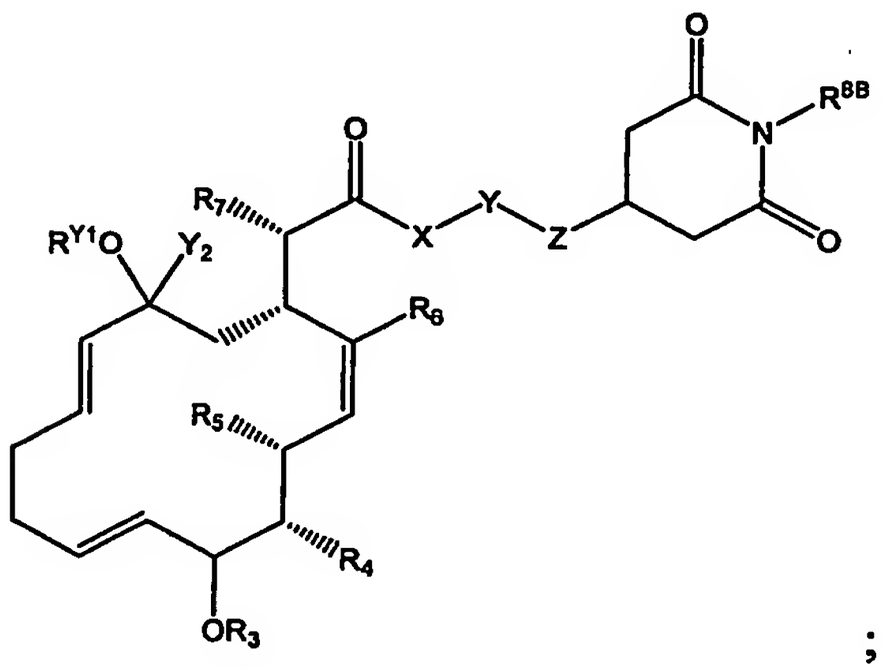
wherein R_3-R_6 and n are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R^{8B} is hydrogen or lower alkyl; and X, Y and Z are independently a bond, -O-, -S-, -C(=O)-, -NR^{Z1}-, –$CHOR^{Z1}$, -$CHNR^{Z1}R^{Z2}$, C=S, C=N(R^{Y1}) or –CH(Hal); or a substituted or unsubstituted C_{0-6}alkylidene or C_{0-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein Hal is a halogen selected from F, Cl, Br and I; and each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; or R^{Z1} and R^{Z2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

33. The composition of claim 11 wherein the compound has the structure:


,


,


or


;

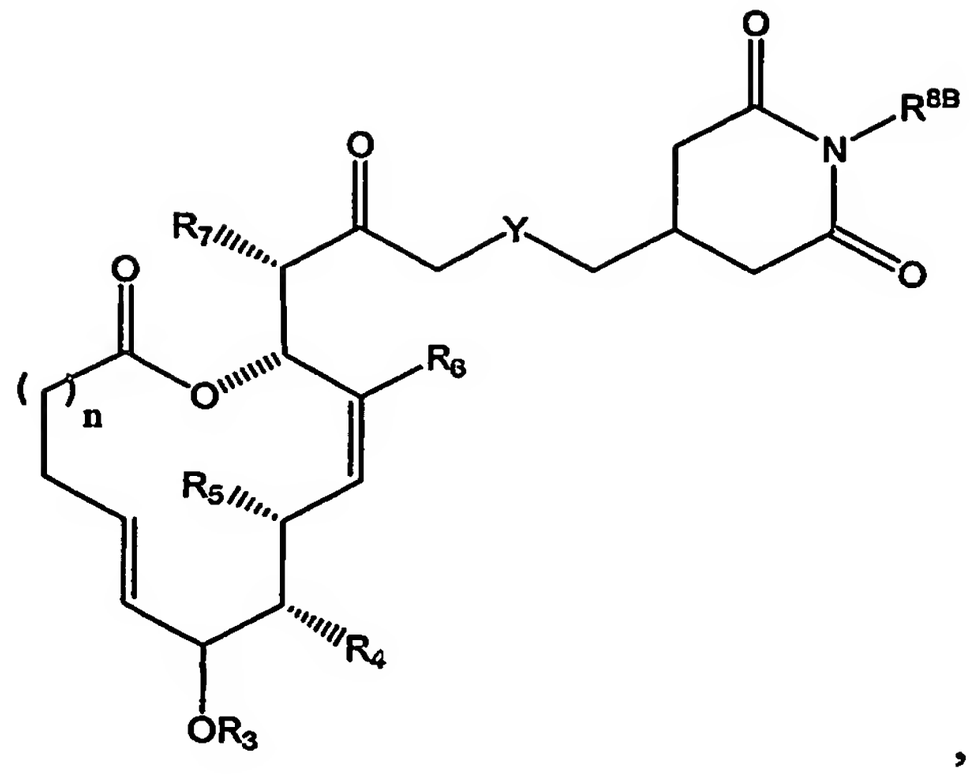
or pharmaceutically acceptable derivative thereof;

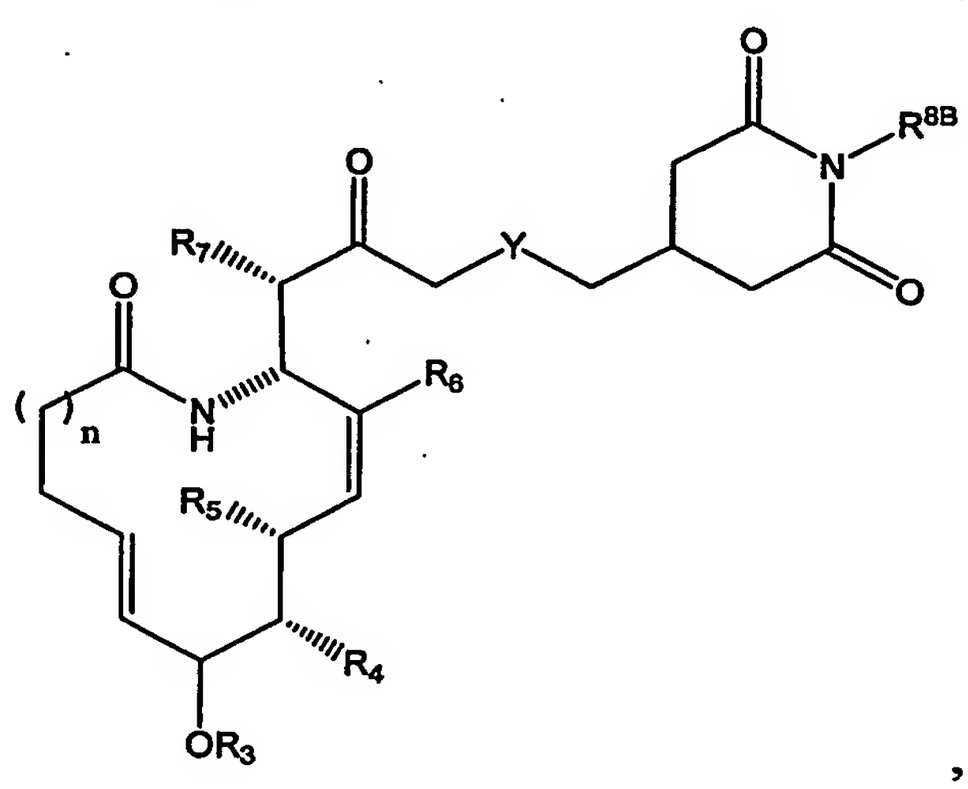
wherein R_3-R_6 are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R^{8B} is hydrogen or lower alkyl; and X, Y and Z

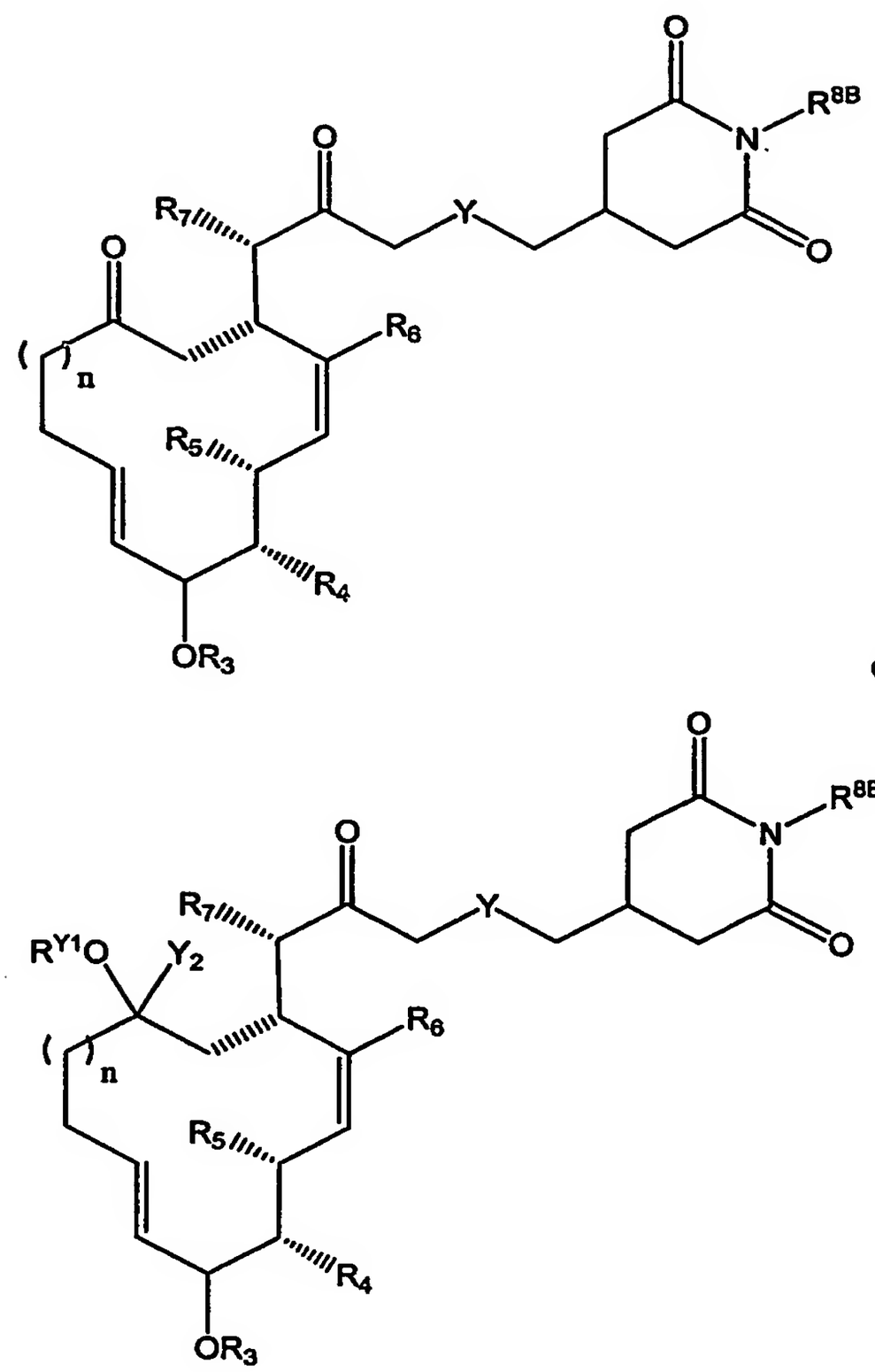
are independently a bond, -O-, -S-, -C(=O)-, -NR^{Z1}-, –$CHOR^{Z1}$, -$CHNR^{Z1}R^{Z2}$, C=S, C=$N(R^{Y1})$ or –CH(Hal); or a substituted or unsubstituted C_{0-6}alkylidene or C_{0-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein Hal is a halogen selected from F, Cl, Br and I; and each occurrence of R^{Z1} and R^{Z2} is independently hydrogen; alkyl, heteroalkyl, aryl, heteroaryl or acyl; or R^{Z1} and R^{Z2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

34. The composition of claim 32 or 33, wherein –X-Y-Z together represents the moiety –CH_2-Y-CH_2-; wherein Y is –$CHOR^{Y1}$, -$CHNR^{Y1}R^{Y2}$, C=O, C=S, C=$N(R^{Y1})$ or –CH(Hal); wherein Hal is a halogen selected from F, Cl, Br and I; and R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

35. The composition of claim 11 wherein the compound has the structure:





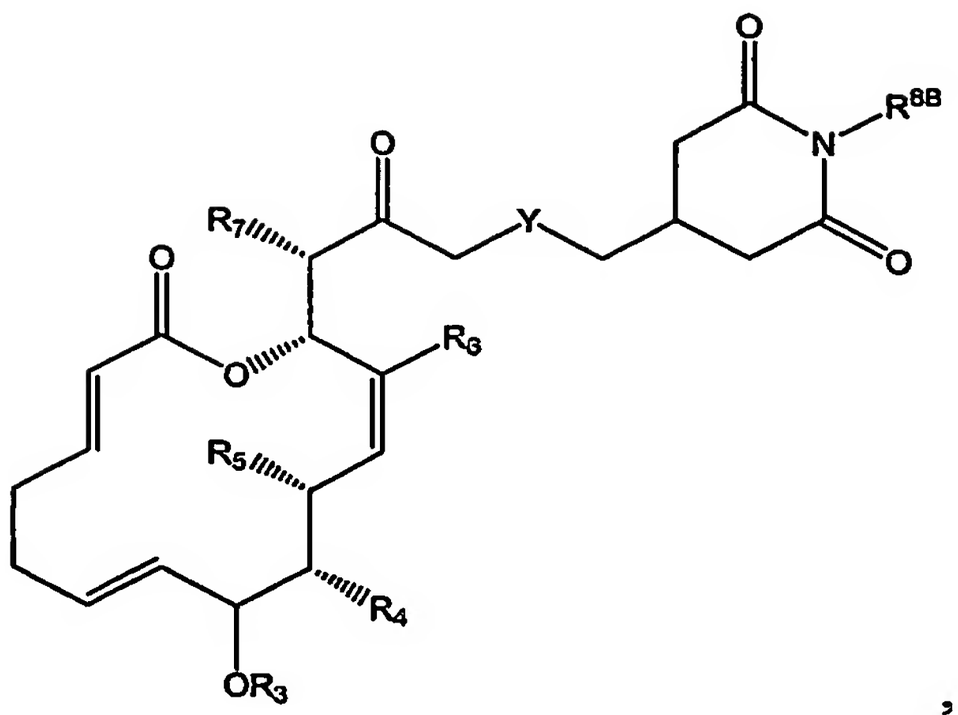


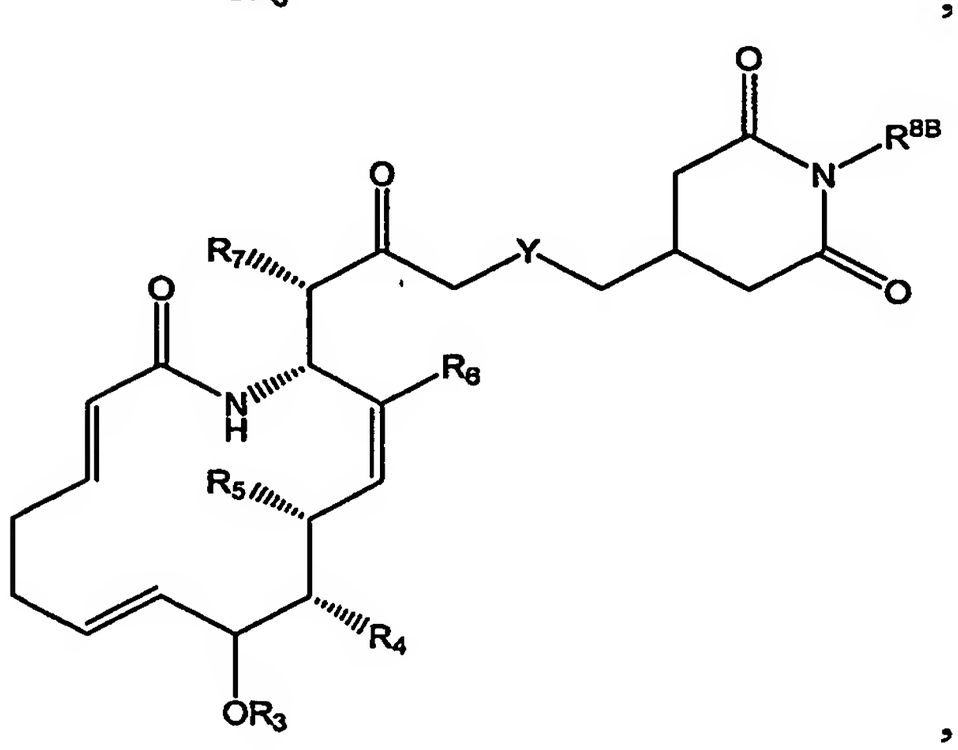
or

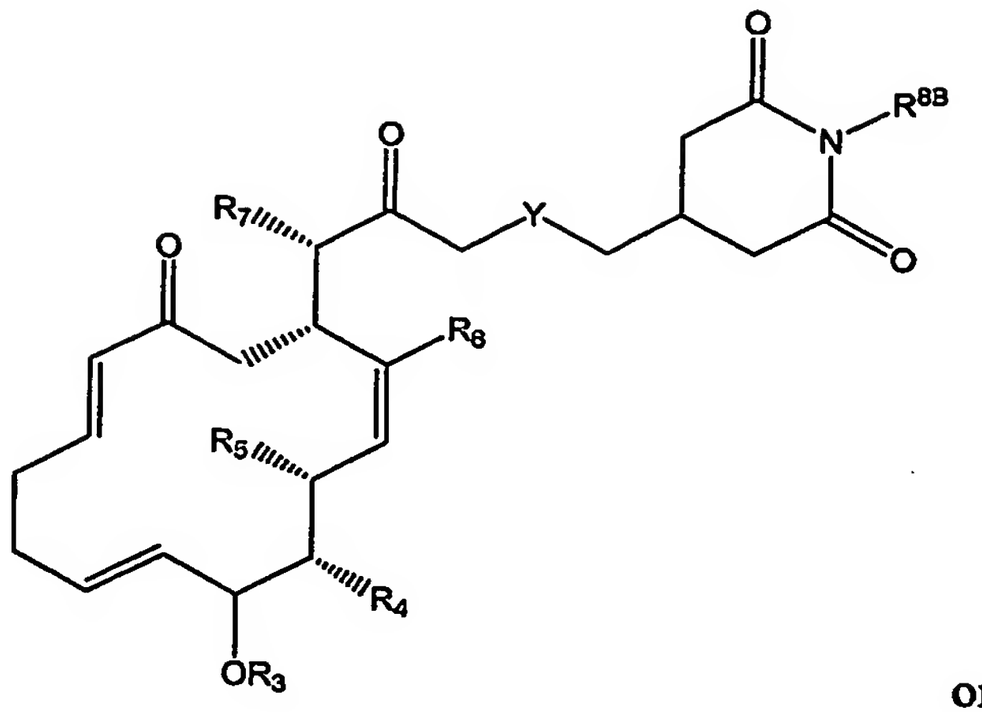
;

wherein R_3-R_6 and n are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R^{8B} is hydrogen or lower alkyl; and Y is $-CHOR^{Y1}$, $-CHNR^{Y1}R^{Y2}$, C=O, C=S, $C=N(R^{Y1})$ or –CH(Hal); wherein Hal is a halogen selected from F, Cl, Br and I; and R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

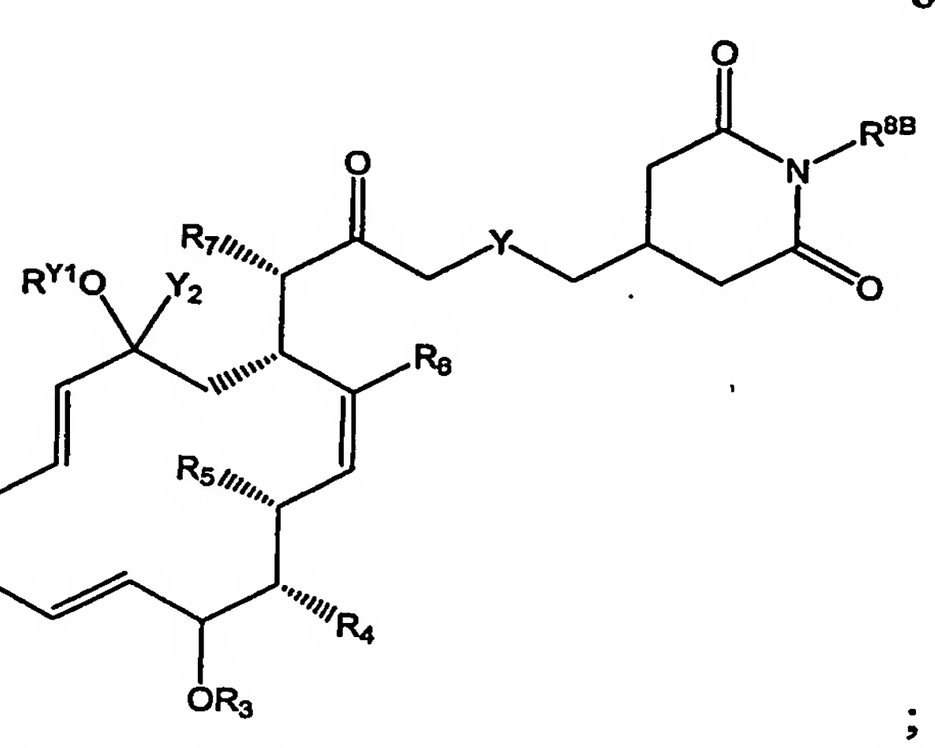
36. The composition of claim 11 wherein the compound has the structure:







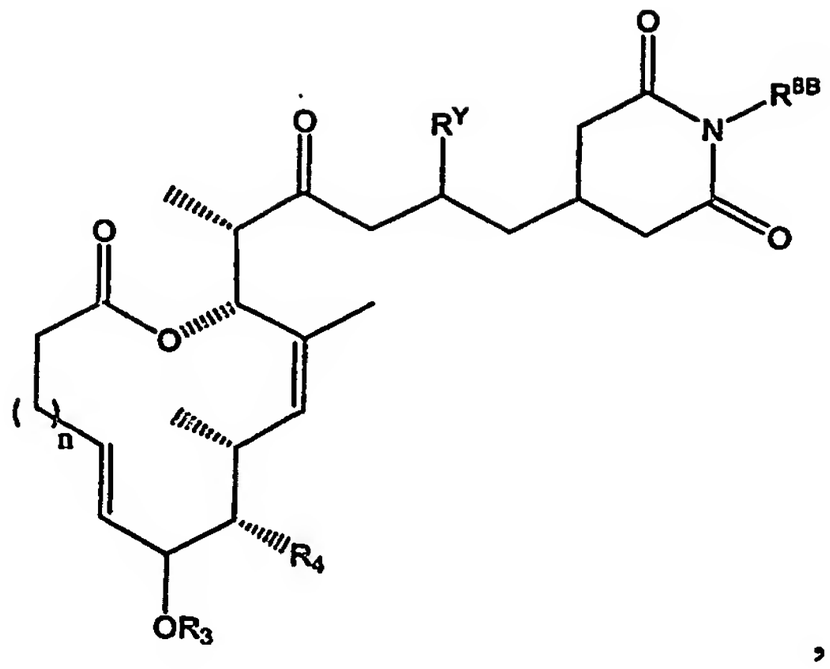
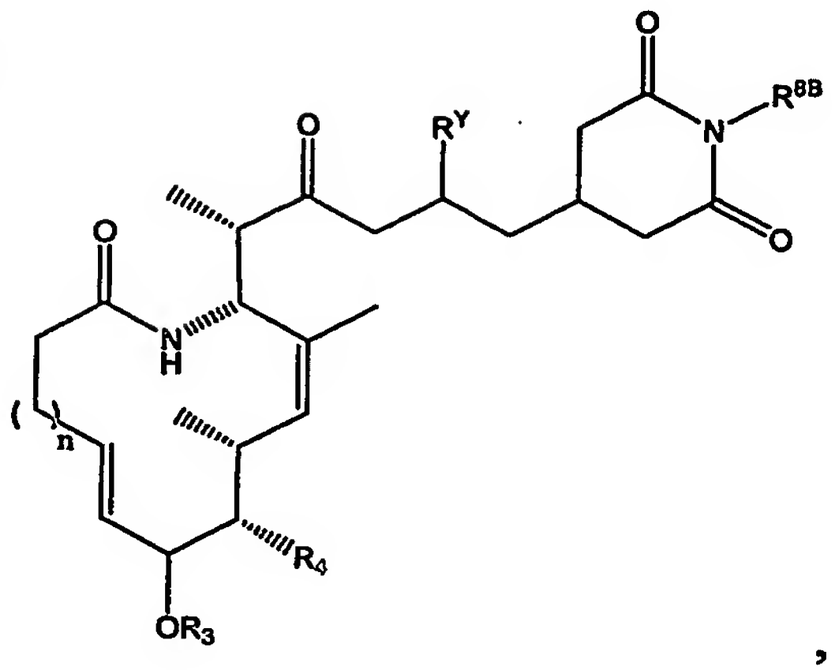
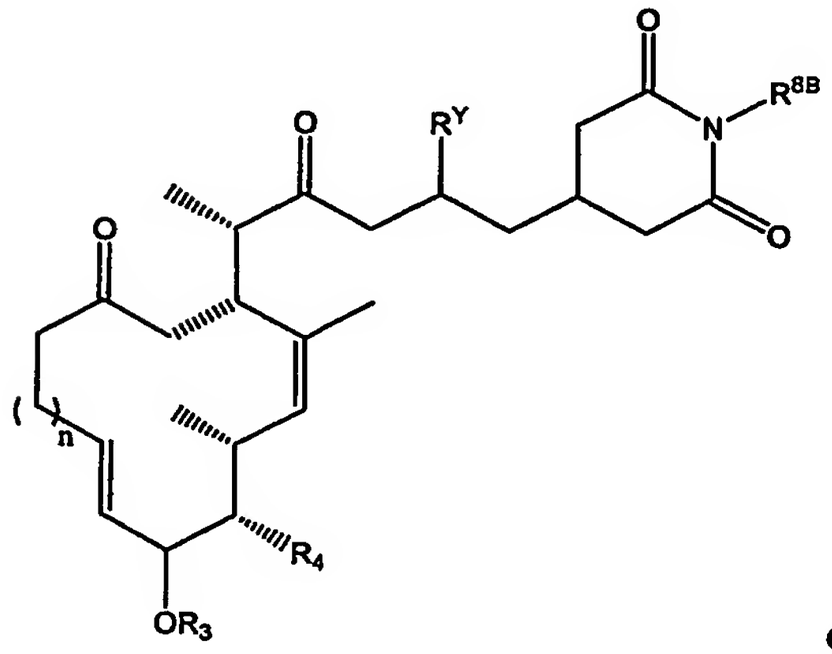
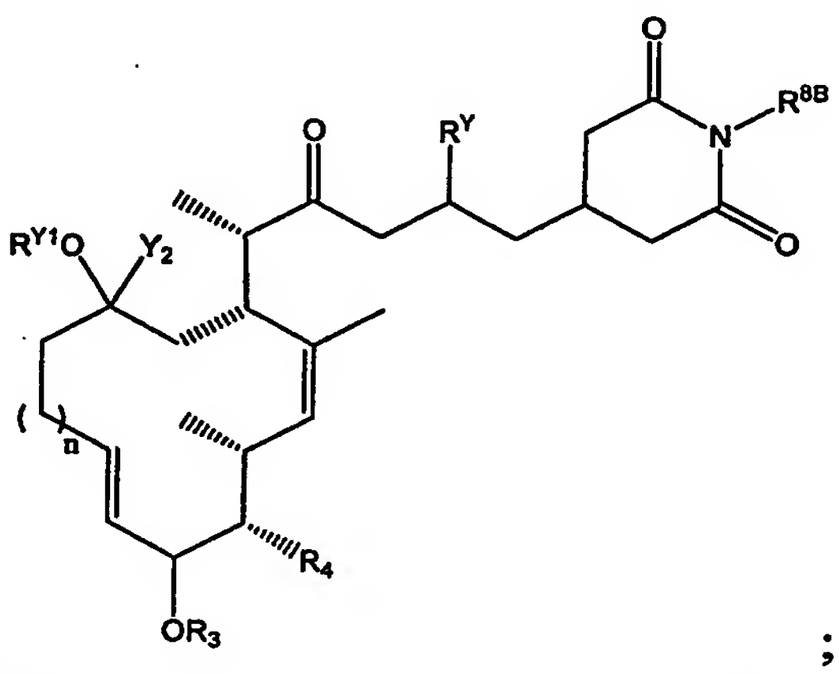
or



;

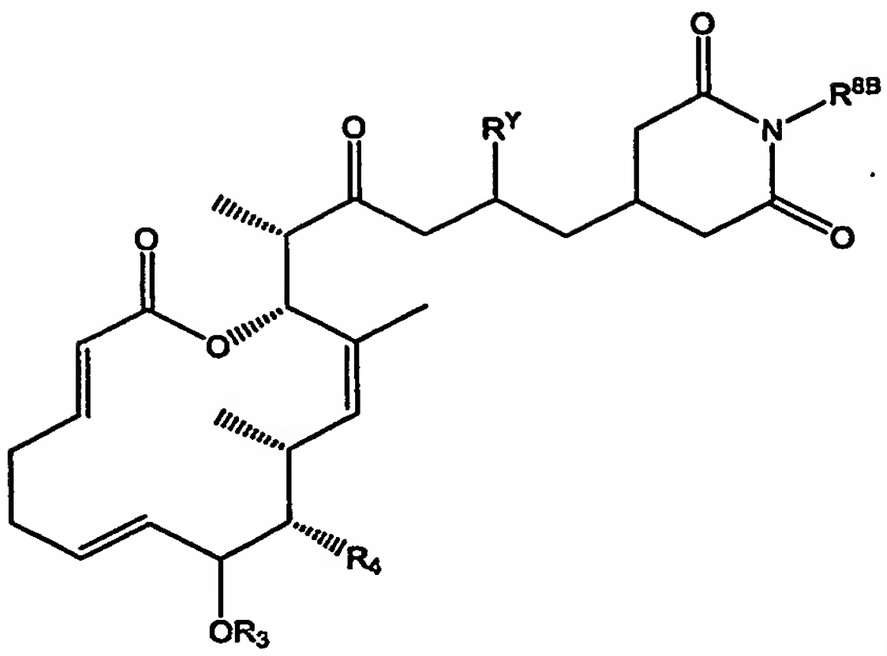
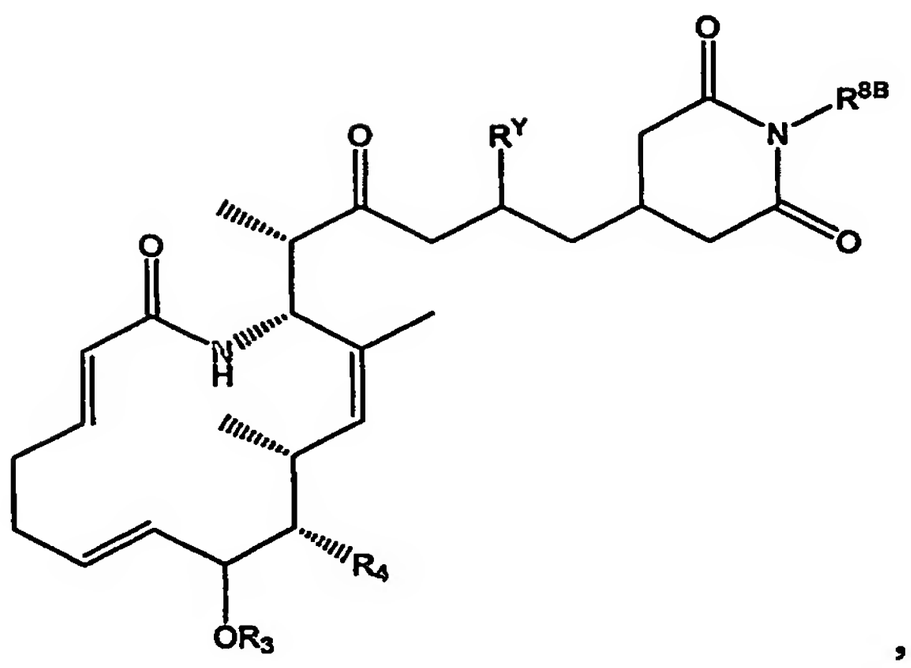
wherein R_3-R_6 are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; R^{8B} is hydrogen or lower alkyl; and Y is –$CHOR^{Y1}$, -$CHNR^{Y1}R^{Y2}$, C=O, C=S, C=N(R^{Y1}) or –CH(Hal); wherein Hal is a halogen selected from F, Cl, Br and I; and R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

37. The composition of claim 11 wherein the compound has the structure:

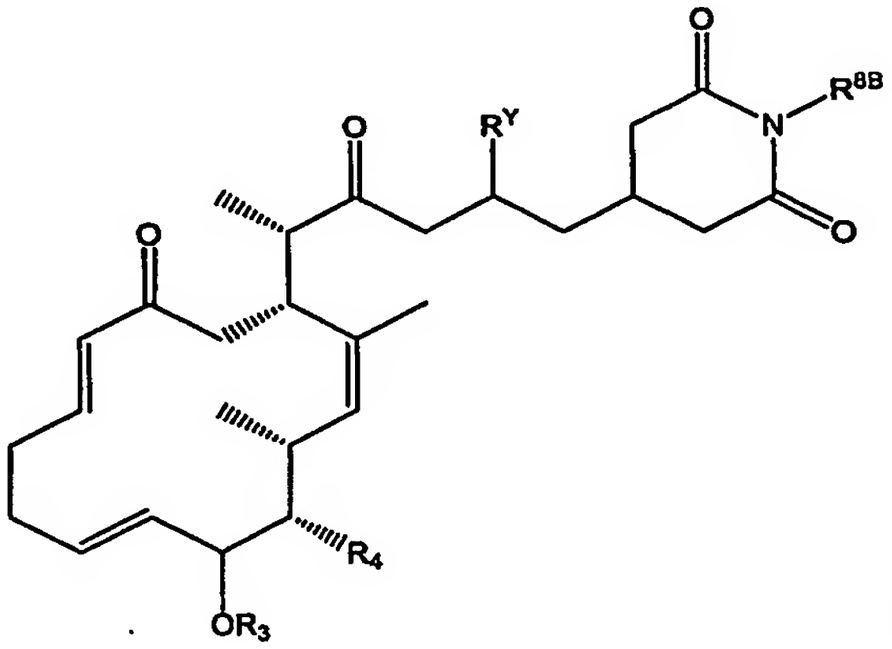

,

,

or

;

wherein n, R_3 and R_4 are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R^{8B} is hydrogen or lower alkyl; and R^Y is hydrogen, halogen, $-OR^{Y1}$ or $-NR^{Y1}NR^{Y2}$; wherein R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

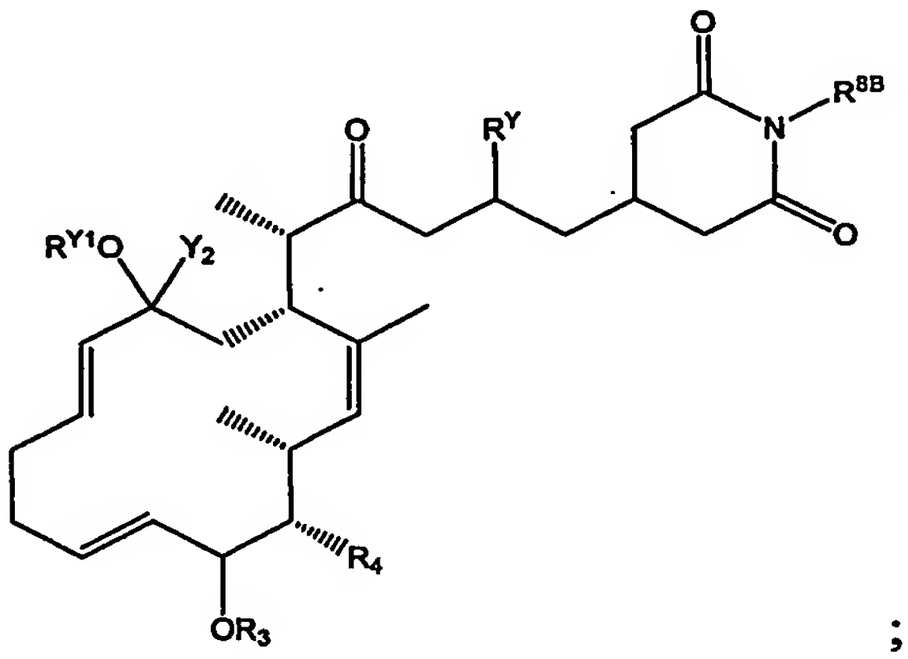
38. The composition of claim 11 wherein the compound has the structure:

,



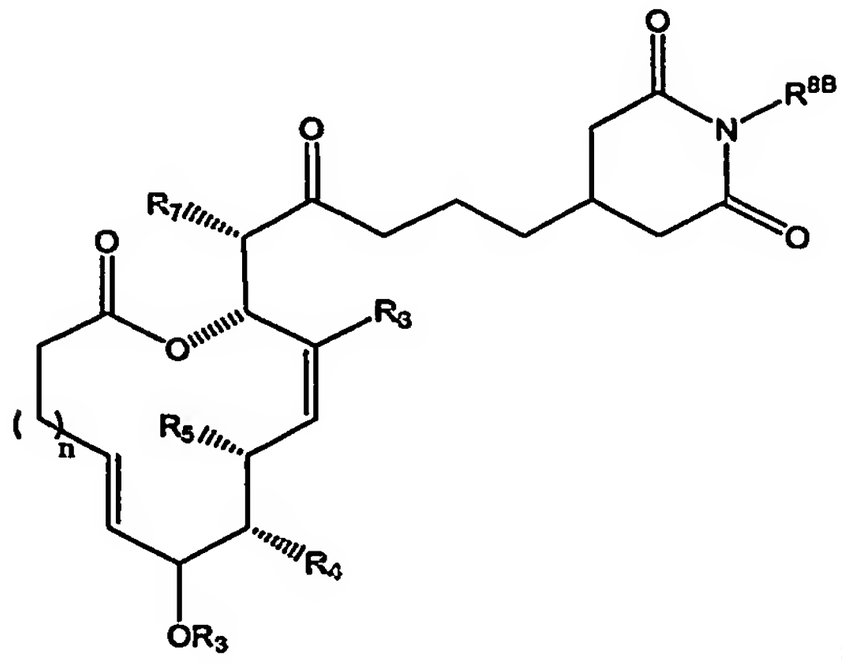
or

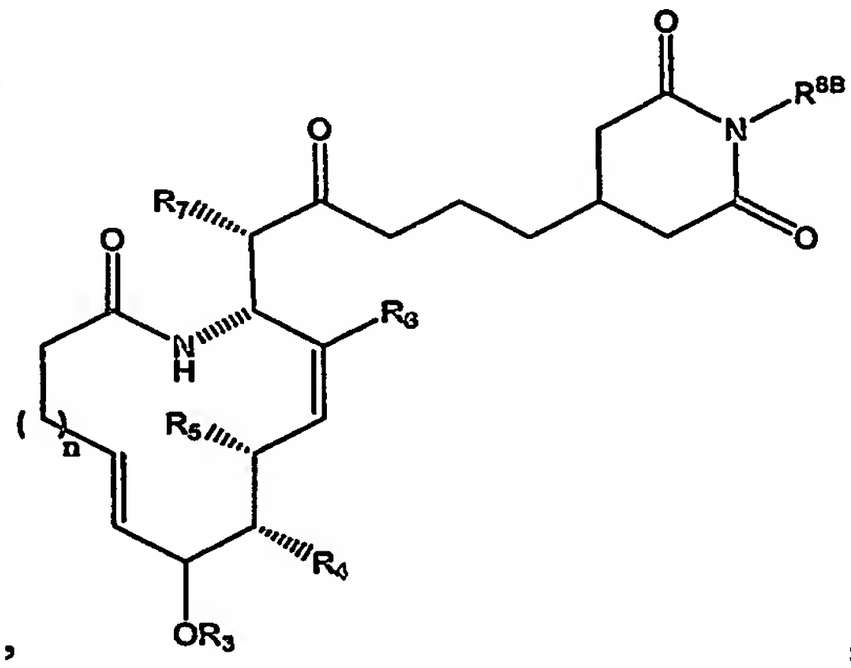


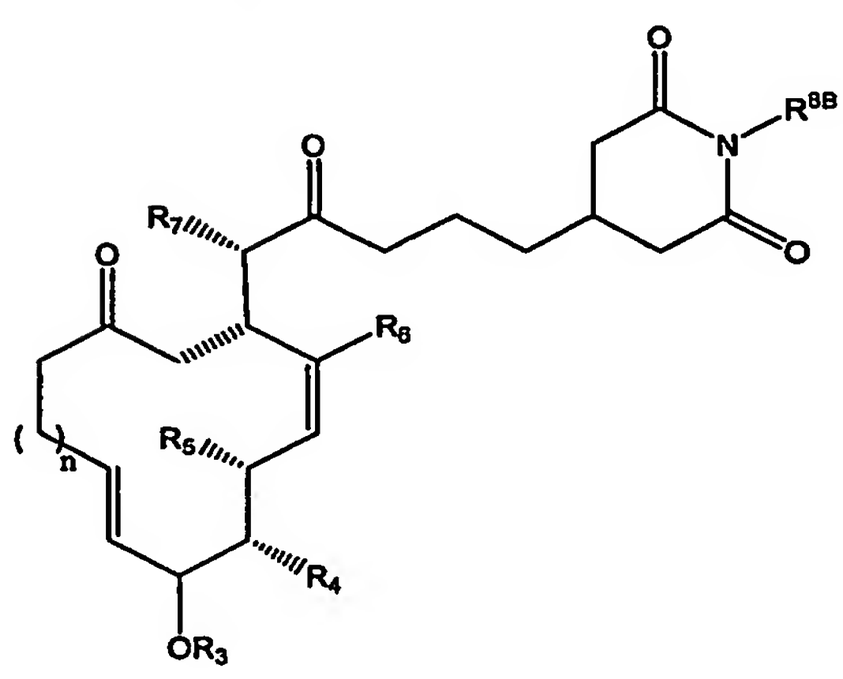
;

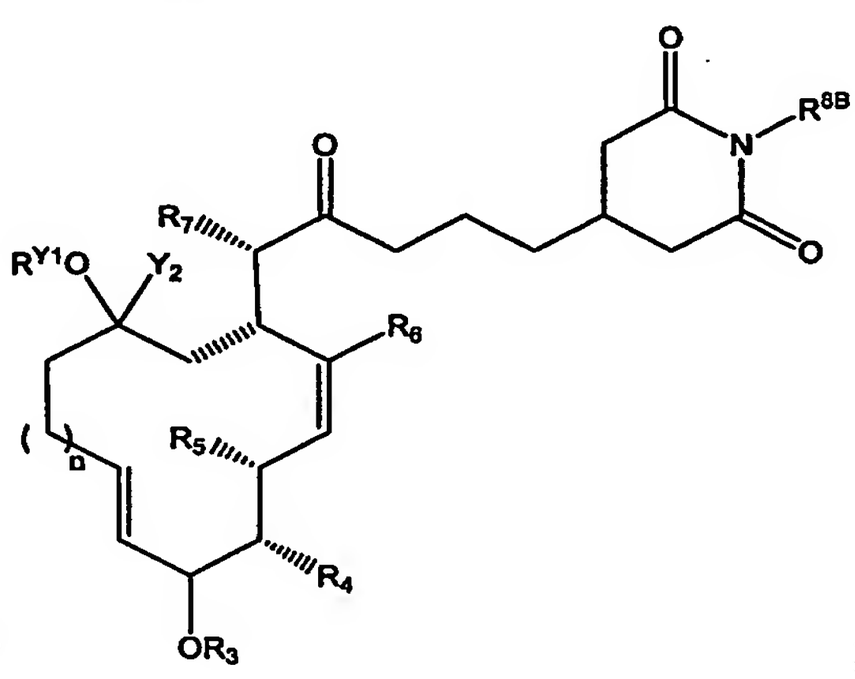
wherein R_3 and R_4 are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R^{8B} is hydrogen or lower alkyl; and R^Y is hydrogen, halogen, $-OR^{Y1}$ or $-NR^{Y1}NR^{Y2}$; wherein R^{Y1} and R^{Y2} are independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl, or R^{Y1} and R^{Y2}, taken together with the nitrogen atom to which they are attached, for a heterocyclic or heteroaryl moiety.

39. The composition of claim 11 wherein the compound has the structure:


,

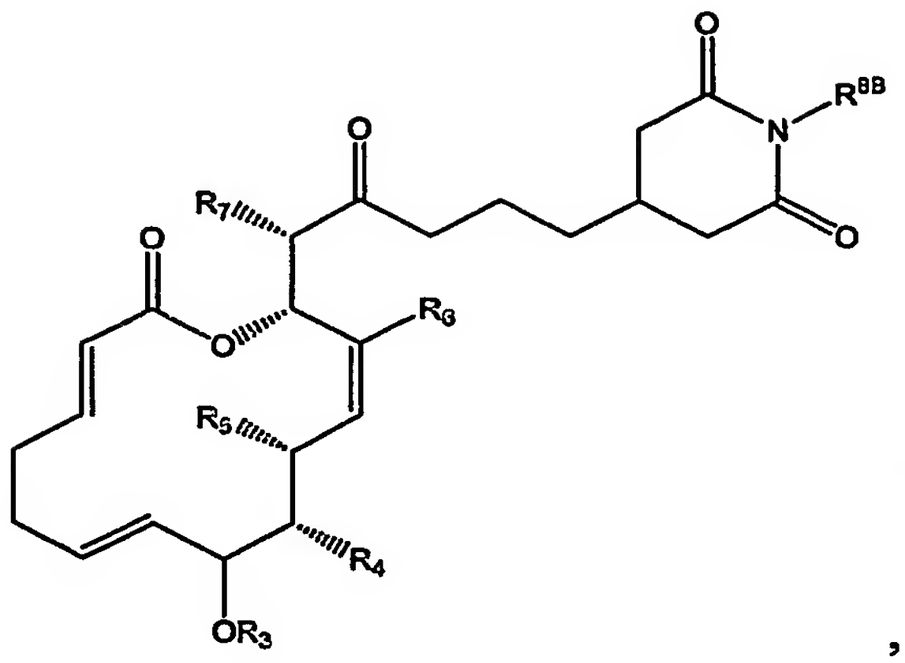
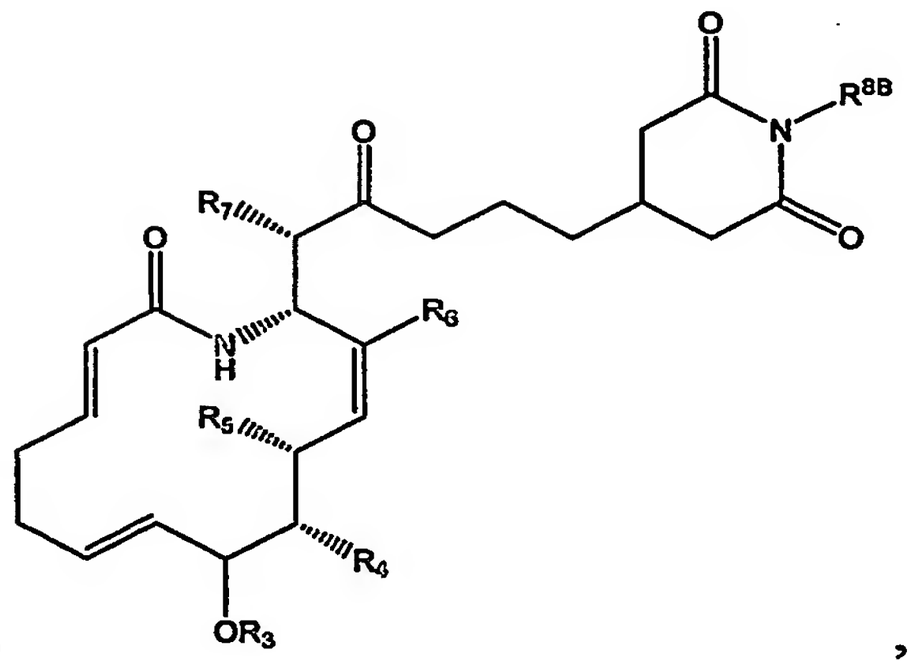
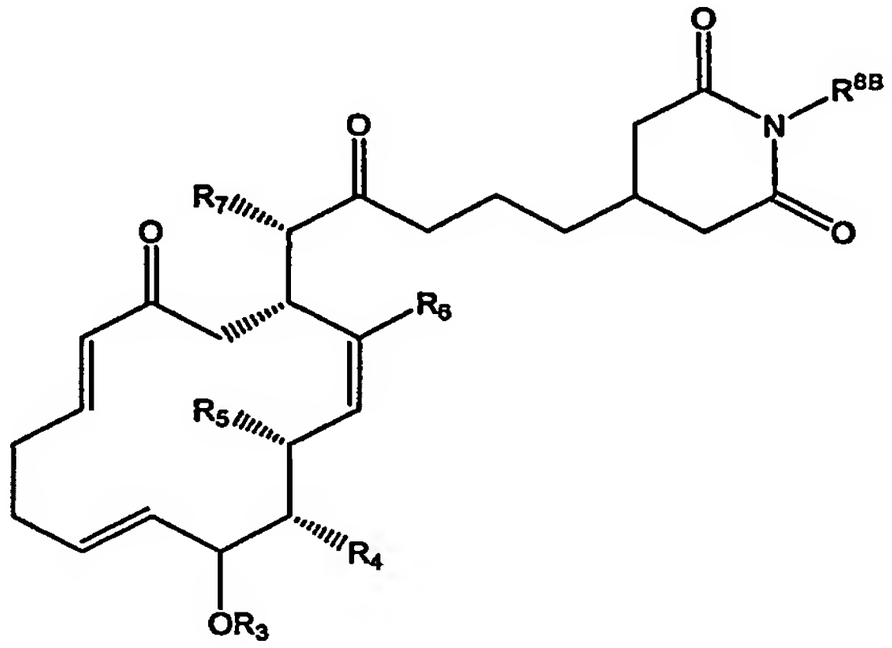
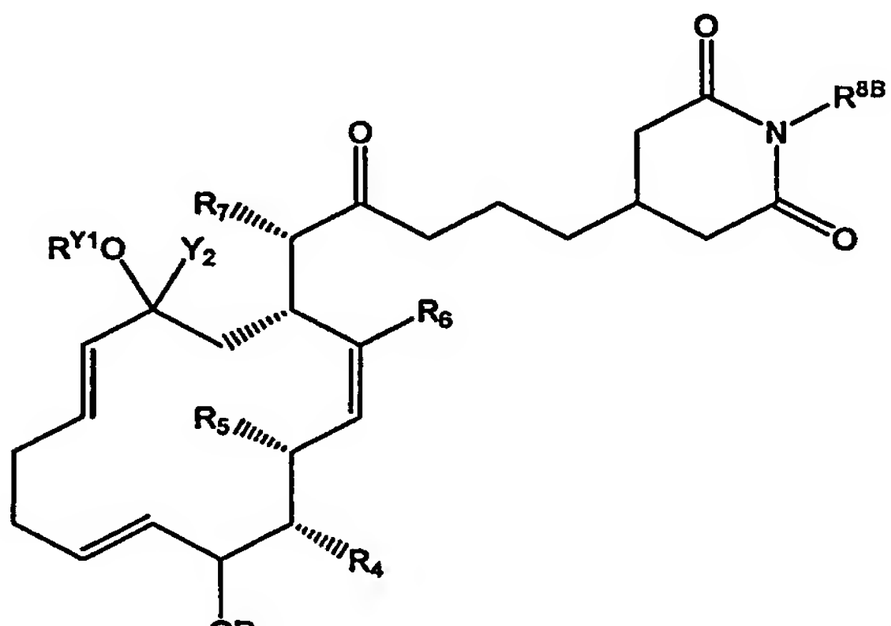

,


or


;

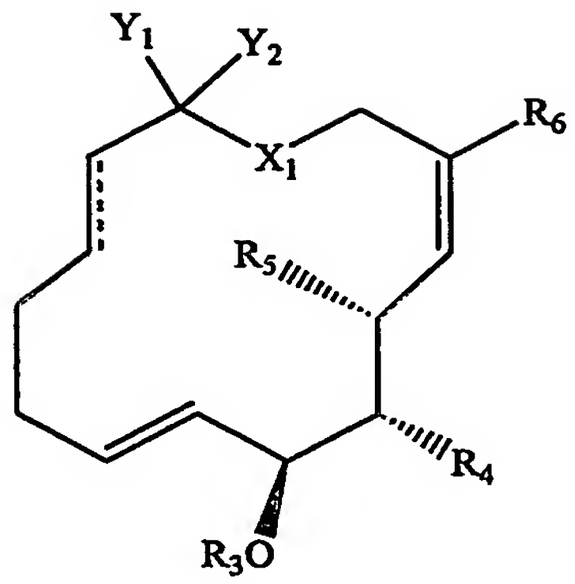
wherein R_3-R_6 and n are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; and R^{8B} is hydrogen or lower alkyl.

40. The composition of claim 11 wherein the compound has the structure:


,

,

or

;

wherein R_3-R_6 are as defined in claim 11; Y_2 and R^{Y1} are independently hydrogen or lower alkyl; R_7 is a substituted or unsubstituted, linear or branched, cyclic or acyclic lower alkyl moiety; and R^{8B} is hydrogen or lower alkyl.

41. The composition of claim 11 wherein the compound has the following structure:



or a pharmaceutically acceptable salt thereof;

wherein X_1 is CH_2, NH or O;

Y_1 and Y_2 are independently OH, $C(R^{Y1})_3$ or Y_1 and Y_2 taken together with the carbon atom to which they are attached are –C=O, wherein R^{Y1} is halo;

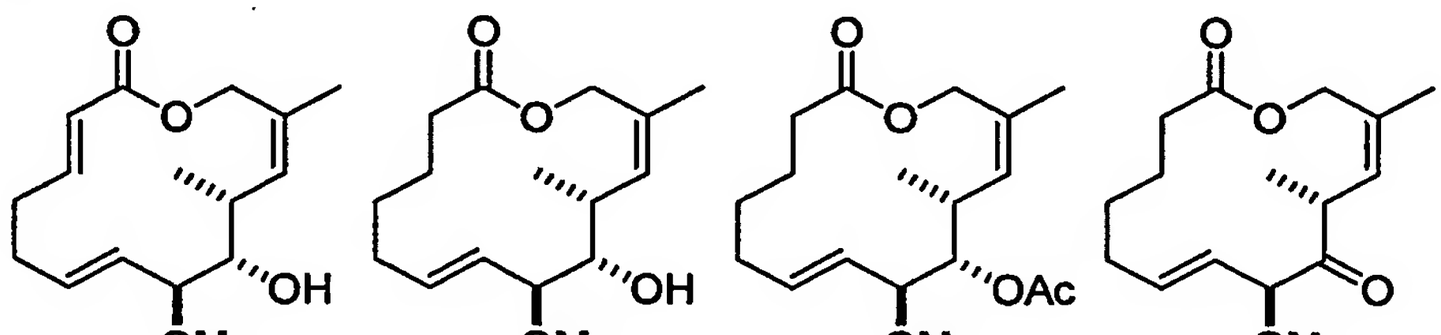
R_6 is H or lower alkyl;

R_5 is H or lower alkyl;

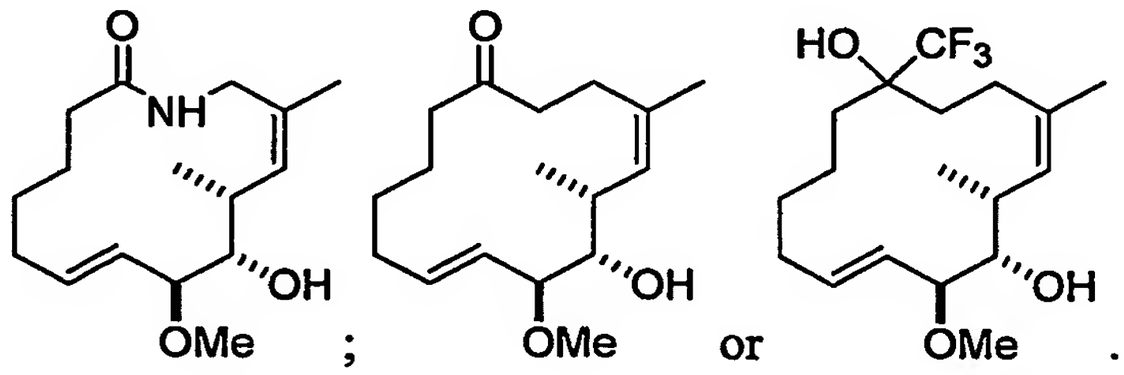
R_4 is OH; and

R_3 is alkyl.

42. The composition of claim 41 wherein the compound has one of the following structures:



OMe ; OMe ; OMe ; OMe ;



; or .

43. The composition of claim 1, wherein the compound is present in an amount effective to inhibit metastasis of tumor cells.

44. The composition of claim 1, wherein the compound is present in an amount effective to inhibit angiogenesis.

45. The composition of claim 1, further comprising a cytotoxic agent.

46. The composition of claim 45, wherein the cytotoxic agent is an anticancer agent.

47. The composition of claim 1, further comprising a palliative agent.

48. A method for treating breast tumor metastasis in a subject comprising:

administering to a subject in need thereof a therapeutically effective amount of the composition of claim 1.

49. The method of claim 48, wherein the dosage is between about 1 mg/kg to about 50 mg/kg of body weight.

50. The method of claim 48, wherein the dosage is between about 0.1 mg/kg to about 40 mg/kg of body weight.

51. The method of claim 48, wherein the dosage is between about 1 mg/kg to about 40 mg/kg of body weight.

52. The method of claim 48, wherein the dosage is between about 0.1 mg/kg to about 30 mg/kg of body weight.

53. The method of claim 48, wherein the dosage is between about 1 mg/kg to about 30 mg/kg of body weight.

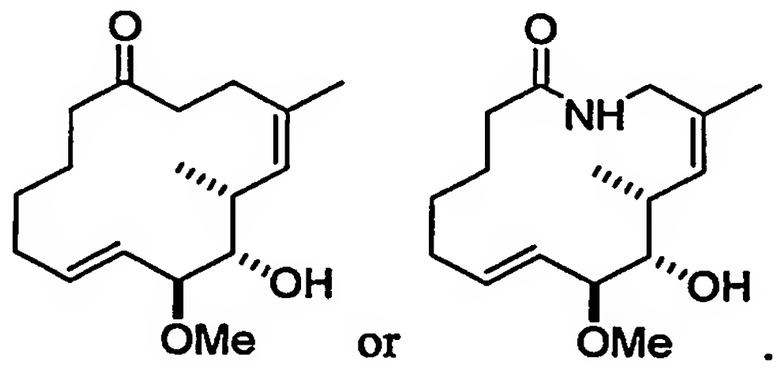
54. The method of claim 48, wherein the dosage is between about 5 mg/kg to about 30 mg/kg of body weight.

55. The method of claim 48, wherein the dosage is between about 0.1 mg/kg to about 20 mg/kg of body weight.

56. The method of claim 48, wherein the dosage is between about 1 mg/kg to about 20 mg/kg of body weight.

57. The method of claim 48, wherein the dosage is 10 mg/kg or greater of body weight.

58. The method of claim 48 wherein in the composition, the compound has one of the following structures:



59. The method of claim 58, wherein the composition is administered at a dosage between about 10 mg/kg to about 20 mg/kg of body weight.

60. The method of claim 48, further comprising administering a cytotoxic agent.

61. The method of claim 60, wherein the cytotoxic agent is an anticancer agent.

62. The method of claim 48, further comprising administering a palliative agent.